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Sea Level Timber Sale

Final Environmental Impact Statement

Volume II



Acronyms

ADF&G	Alaska Department of Fish and Game	RM	Roaded Modified
AFHA	Aquatic Fish Habitat Assessment	RMA	Riparian Management Area
AFRPA	Alaska Forest Resources and Practices Act	RN	Roaded Natural
AHMU	Aquatic Habitat Management Unit	ROD	Record of Decision
ANCSA	Alaska Native Claims Settlement Act	ROS	Recreation Opportunity Spectrum
ANILCA	Alaska National Interest Lands Conservation Act	SHPO	State Historic Preservation Officer
ASQ	Allowable Sale Quantity	SIS	Silvicultural Information System
BBF	One Billion Board Feet	SPM	Semi-Primitive Motorized
BLM	Bureau of Land Management	SPNM	Semi-Primitive Nonmotorized
BMP	Best Management Practice	SRI	Sediment Risk Index
CEQ	Council on Environmental Quality	TPIT	Tongass Plan Implementation Team
CFI	Continuous Forest Inventory	TLMP	Tongass Land Management Plan
CFL	Commercial Forest Land	TRUCS	Tongass Resource Use Cooperative Survey
CFR	Code of Federal Regulations	TTRA	Tongass Timber Reform Act
CZMA	Coastal Zone Management Act of 1976	USDA	United States Department of Agriculture
DBH	Diameter at Breast Height	USDI	United States Department of the Interior
EIS	Environmental Impact Statement	USFWS	United States Fish and Wildlife Service
EPA	Environmental Protection Agency	VCU	Value Comparison Unit
EVC	Existing/Expected Visual Condition	VQO	Visual Quality Objective
FSH	Forest Service Handbook	WAA	Wildlife Analysis Area
FSL	Forest Science Lab		
FSM	Forest Service Manual		
GIS	Geographic Information System		
IDT	Interdisciplinary Team		
IMEG	Interagency Monitoring and Evaluation Group		
ITS	Individual-Tree Selection		
KPC	Ketchikan Pulp Company		
KV	Knutsen-Vandenberg Act		
LSTA	Logging System Transportation Analysis		
LTF	Log-Transfer Facility		
LUD	Land-Use Designation		
LWD	Large Woody Debris		
MBF	One Thousand Board Feet		
MIS	Management Indicator Species		
MM	Maximum Modification		
MMBF	One Million Board Feet		
MMI	Mass-Movement Index		
NEPA	National Environmental Policy Act		
NFMA	National Forest Management Act		
NMFS	National Marine Fisheries Service		
NOI	Notice of Intent		
NPDES	National Pollution Discharge Elimination System		
P	Primitive		
PR	Partial Retention		
R	Retention		

Acknowledgments

Front cover: By Cindy Ross Barber, 1992. The design illustrates the range of interconnected issues addressed in the EIS.

Volume II

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Appendix A

**Reasons for Scheduling the
Environmental Analysis of
the Sea Level Project Area**

Reasons for Scheduling the Environmental Analysis of the Sea Level Project Area

Summary

Reasons for scheduling the Sea Level Project Area at this time may be summarized as follows:

1. The Sea Level Project Area contains a sufficient number of acres allocated to development Land Use Designations (LUDs) to make timber harvest in the Area appropriate under the 1997 Tongass Land and Resource Management Plan (TLMP). Available information indicates harvest of the amount of timber being considered for this Project is consistent with the TLMP Standards and Guidelines and other requirements for resource protection.
2. Areas with available timber will be considered for harvest, in order to seek to provide a supply of timber from the Tongass National Forest which (1) meets the annual market demand for timber from such Forest and (2) meets the market demand from such Forest for each planning cycle, pursuant to Section 101 of the Tongass Timber Reform Act (TTRA).
3. Effects on subsistence resources are projected to differ little according to which sequence these areas are subjected to harvest. Because of widespread distribution of subsistence use and other factors, harvesting other areas, with available timber on the Tongass National Forest, is expected to have similar potential effects on resources, including those used for subsistence. Harvest of these other areas is foreseeable, in any case, over the Forest planning horizon under the TLMP.
4. Providing substantially less timber volume than required to meet TLMP and TTRA Section 101 timber-supply and employment objectives, in order to avoid harvest in the Sea Level Project Area is not necessary or reasonable.
5. It is reasonable to schedule harvest in the Sea Level Project Area at the present time rather than other areas with respect to the issues of previous harvest entry and access, level of controversy over subsistence and other effects, and the ability to complete the National Environmental Policy Act (NEPA) process and make timber available to meet the needs of dependent industries. Other areas that are reasonable to consider for harvest in the near future are the subject of other project EIS's that are currently ongoing or scheduled to begin soon.

More detail regarding the scheduling of the environmental analysis for the Sea Level Project Area is presented in this appendix in three subsections:

- Southeast Alaska Timber Demand
- Tongass Land Management Plan
- Tongass Land Management Plan Implementation

Southeast Alaska Timber Demand

Meeting Market Demand

Timber demand in Southeast Alaska can vary dramatically from year to year. The level of demand is dependent on complex interactions among factors that are difficult, if not impossible, for the industry or the Forest Service to predict with accuracy. Such factors include: fluctuations in interest rates, housing starts, business cycles in the United States and overseas, changes in the value of the dollar with respect to foreign currencies, changes in import tariffs, and changes in export policies in other countries.

The multi-year timber-sale planning process generally requires management of four different groups, or “pools”, of timber volume:

1. **Timber volume in preparation**
This pool of timber contains sales being analyzed and undergoing public comment through the NEPA process. This process can often take from 1 to 4 years and ends when a NEPA decision is made, usually issued in the form of a Decision Notice or Record of Decision.
2. **Timber volume in appeals or litigation**
This pool of timber volume contains sales on which action is stayed or deferred as a result of the administrative appeals process or litigation. As a result, it is not yet available to the program managers for sale. This process can take as little as 60 days, if no appeals are filed, or up to 4 years if litigated.
3. **Timber volume available for sale**
This pool of timber volume contains sales for which environmental analysis has been completed, administrative appeals and litigation (if any) have been resolved, and is available for managers to schedule for sale offerings. Managers need to maintain enough volume in this pool to be able to schedule future sale offerings in an orderly manner, and to be able to schedule such offerings in the size and configuration which best meets the needs of the public. As a matter of policy and sound business practice, the Forest Service attempts to announce probable future sale offerings at least 1 year in advance. This allows potential purchasers an opportunity to do their own evaluations of these offerings in order to determine whether to bid on them, and if so, how much to offer.
4. **Timber volume under contract**
The pool of timber volume contains sales which have been sold and a contract issued to a purchaser, but which have not yet been harvested. Timber contracts typically, but not always, give the purchaser 3 years to harvest and remove the timber purchased. Long standing Forest Service practice is to attempt to maintain about 2 to 3 years of unharvested timber volume under contract to timber purchasers. This practice is not limited to the Alaska Region, but is particularly pertinent to Alaska because of the nature of the land base here. The relative absence of roads, the island geography, the steep terrain, and the consequent isolation of much of the timber land means that timber purchasers need longer-than-average lead times to plan operations, stage equipment, set up camps, and construct roads, prior to beginning harvest.

To be responsive to market demand, the Forest Service attempts to provide an opportunity for the industry as a whole to accumulate a supply of purchased but unharvested timber (i.e. volume under contract) equal to about 3 years of timber consumption. There are a number of reasons for allowing the accumulation of volume under contract. First, this allows the industry ample time to plan an orderly and systematic harvest schedule that meets all timing restrictions and permit requirements. Second, it allows the industry to better manage its financial resources and to secure financing on the basis of longer-term timber supply. Third, it allows time for the necessary infrastructure (roads, log-transfer facilities, and logging camps) to be put in place prior to timber harvest. Fourth, it gives the Forest Service time to develop an orderly progression of timber-management projects in various stages of

the planning process. Finally, an ample timber supply gives the industry more opportunity to sustain itself through market cycles. If demand for chips or lumber in any year suddenly increases, producers will have access to enough timber to respond to the increase in demand without waiting for the Forest Service or Congress to take action.

Normally, the unharvested volume under contract will be drawn down during high points in the market when mills increase production, and built up when markets are poor and production declines. In addition, during low markets it is normal for significant portions of the timber sale program to go unsold. These sales become "shelf volume", that is, they are set aside until market conditions improve. When demand increases to the point that it exceeds the average program level, this volume is taken off the shelf, updated, and offered for sale. Thus, the timber-sale process proceeds at a relative even flow, building up shelf volume and volume under contract during down market cycles, and reducing during up market cycles.

For the first time in 10 years, the Tongass National Forest is experiencing a situation where shelf volume is being generated. In Table Appendix A-1, an asterisk (*) next to the sale name indicates sales which have been offered for sale and have received no bids; this is our current shelf volume and, because we are still at the bottom of a 50-year market low, it can be expected to grow. When the market begins to climb, the amount of shelf volume can be expected to decrease as the sales become economical for the industry to operate.

From the initiation of a timber-sale project, through EIS and decision document preparation, to the sale of timber from the project, usually requires 3 to 4 years or more depending on complexity. Such lengthy preparation time means that in order to have a stable timber supply and be able to respond to upswings in the market, there is a need to have ongoing timber-management projects in various stages of the planning process. It is also necessary to have a supply of completed NEPA projects available for sale if an increased market demand is to be met.

The timber industry in Southeast Alaska is now in a period of transition. Following the closings of the Alaska Pulp Corporation (APC) pulp mill and the Ketchikan Pulp Company (KPC) pulp mill, new mills are either under construction or are being proposed, and existing mills are being upgraded. There have been on-going discussions between Forest Service administration, the State of Alaska, industry representatives, and various interest groups regarding a veneer plant at Ward Cove in Ketchikan. A feasibility study is planned and funded through a grant, however at this time no determination about the veneer plant can be made. Seley Log and Lumber Company opened a mill in February of 1998 on Gravina Island, in the Ketchikan area. The Company will employ 60 people if run at full capacity, and will house a sawmill and secondary and tertiary manufacturing facilities. Product outputs will include decking and fencing, and possibly furniture. The operation is expected to process 30 million board feet (MMBF) annually (Alan Monk Seley Inc., March 1998). As for existing Southeast Alaska mills, the Viking Lumber sawmill in Klawock, on Prince of Wales Island, recently underwent an upgrade and re-tooling; computerized equipment and a whole-log chipper were added (USDA Forest Service 1996). Also, the APC sawmill in Wrangell has been purchased by Silver Bay Logging (Wrangell Sentinel 1/15/98). All these mills will depend to some extent on a supply of timber from the Tongass National Forest.

The market demand analysis in the TLMP was based on a study by David Brooks and Richard Haynes, research scientists at the Pacific Northwest Research Station. Following the release of the TLMP, a final version of the Brooks and Haynes report was published. It is this final report that is referenced and cited throughout this Appendix. Three scenarios (low, medium, and high) were developed in the study to display the demand for Tongass National Forest timber through the year 2010 (Brooks and Haynes 1997). For the low scenario, high timber-selling values, harvest costs and manufacturing costs limit Alaska's share of markets. Under the high scenario, increased harvest and manufacturing efficiency, with resulting lower costs, make Alaskan mills more competitive. Projected annual timber demand for the next decade is 113 MMBF for the low scenario, 133 MMBF for the medium, and 156 MMBF for the high scenario. These three scenarios do not consider the Seley mill that is operating on Gravina Island, the proposed veneer plant, or the reopening of the APC sawmill in Wrangell. Nor do they account for shifting markets in Japan and the recent willingness of the Japanese to purchase Alaskan milled lumber, manufactured wood products, laminates, etc. All of these factors would lead to an increase in demand over the totals listed for the three scenarios.

A Appendix

The Allowable Sale Quantity (ASQ) for the Tongass averages 267 MMBF on an annual basis, however, a level of 200 MMBF or less is more likely to be offered over the next few years, given current market conditions and the transition that both the timber industry and the Forest Service are experiencing (USDA Forest Service 1997).

Tongass Land Management Plan

Chapter 1 of this EIS includes an explanation of how this Project relates to the Tongass Land Management Plan. That section describes the LUDs which assign land areas to different types of management prescriptions. Chapter 1 also explains that the Forest is divided into land areas called value comparison units (VCU's). In most cases, VCU's are roughly equivalent to large watersheds. A VCU may contain one or more LUD.

The ASQ calculated in the TLMP is an upper limit on the volume of timber that may be offered for sale from suitable timber land on the Forest, as part of the regularly scheduled timber-sale program. The current ASQ is 2.67 billion board feet per decade, which equates to an annual average of 267 MMBF. There are 676,000 acres suitable for timber management under the TLMP. Three LUDs (Timber Production, Modified Landscape, and Scenic Viewshed) account for nearly all of these suitable acres (USDA Forest Service 1997).

Cumulative Effects

The TLMP considers the cumulative effects, for Forest-wide acres managed for timber production, for both the long-term and short-term timber-sale programs. These effects are discussed at the end of their respective resource sections.

Analysis shows a need to schedule harvest in VCU's assigned management prescriptions that permit timber harvest, including the VCU's within the Sea Level Project Area. These VCU's would be needed to help meet TLMP and TTRA timber-supply objectives. The Forest-wide cumulative-effects analysis in the TLMP Final EIS supports the conclusion that this harvest can be accomplished within existing Standards and Guidelines and other requirements for resource protection.

Subsistence

With the passage of the Alaska National Interest Lands Conservation Act (ANILCA), Congress recognized the importance of subsistence resources to rural residents of Alaska. In particular, prior to any disposition of public lands, an agency must first complete a subsistence effects evaluation, including consideration of the availability of other lands (ANILCA 810 (a)).

Based on a review of available harvest volumes for each VCU on the Ketchikan Area of the Tongass National Forest, it appeared that in order to meet market demand, most of the Timber Production LUD would need some level of harvest in the first decade of the TLMP. A tentative sale schedule for the Ketchikan Area was developed, and will be updated every 6 months based on this analysis. In short, harvesting at this level to meet market demand, would indicate an impact to all subsistence use areas. The most significant impacts on subsistence deer habitat would not occur until 20 to 30 years after timber harvest when the second-growth canopy closes. When those impacts to subsistence deer habitat are viewed from a reference point 20 years in the future, the particular importance of which areas are scheduled first during a 5-year period appears to be minor.

In considering rural communities that may be most affected by any proposed timber harvest in the Project Area, Saxman and Metlakatla appear to have the strongest cultural and subsistence ties to the area. Each community has its own level of reliance on the Project Area for supplying subsistence resources, especially deer. Detailed information about subsistence use is provided in the Project files and Chapter 3 of this EIS.

As a result of several considerations, including (1) the availability of subsistence resources in nondevelopment LUDs on Revillagigedo Island (such as the large and medium old-growth habitat reserves including the Carroll Point, Naha, and Swan Lake reserves, the small old-growth habitat reserves within the Project Area, and the Misty Fiords National Monument Wilderness), (2) Standards and Guidelines designed to maintain habitat (such as the 1,000-foot beach and estuary fringes), (3) the relative dependence of communities on subsistence resources in the Project Area, as well as (4) analysis contained in the TLMP Final EIS and earlier analyses, the Forest Service

scheduled an environmental analysis of the Sea Level Project Area. Other projects including Salty Timber Sale, Upper Carroll, and others, are being implemented, or will undergo environmental analysis within the next 3 to 5 years.

Extensive Forest-wide cumulative effect analysis has been included in the TLMP Final EIS (TLMP Final EIS, pp. 3-529 through 3-685). That analysis, and the tables of data with the maps in Appendix H of the TLMP Final EIS, are incorporated by reference into this document. The data in Appendix H indicates there is subsistence hunting of deer and other uses in virtually every area of the Tongass National Forest which have substantial quantities of harvestable timber.

The following community information is from the TLMP Final EIS. All TLMP alternatives should be able to provide habitat capability for deer hunted by Metlakatla residents. In the long term, deer harvest for all rural and nonrural hunters is not projected to exceed 10 percent of capability (TLMP Final EIS, page 3-607). All TLMP alternatives should be able to provide habitat capability for deer hunted by Saxman residents. In the short term, deer harvest for all rural and nonrural hunters is not projected to exceed 10 percent of capability. In the long term, deer harvest for all rural hunters is not projected to exceed 10 percent of capability. In the long term, however, projected deer harvest for all hunters exceeds 10 percent of capability (TLMP Final EIS, page 3-643). At some point a restriction on nonrural hunters may be necessary.

The analysis shown in Chapter 3 of the Sea Level EIS is supported by the analysis shown above in the TLMP Final EIS. The analysis for the ANILCA section 810 is shown in the Subsistence section of Chapter 3, in this EIS. The determinations made from the ANILCA section 810 analysis and findings will be a part of the Record of Decision for this Project.

Tongass Land Management Plan Implementation

Review of Available Volume

A review was conducted of each VCU for available volume. This analysis was based on computer inventories and ASQ calculations used for the TLMP. All areas available for timber harvest under the TLMP can be expected to be entered for harvest sometime in the future if the Plan is to be fully implemented. This analysis represents one scenario for meeting the average annual ASQ of 267 MMBF. Obviously, there can be other scenarios which harvest either more or fewer acres in the Project Area and still meet the ASQ. Project Area VCUs contain approximately 17,100 acres of timber currently suitable and available for harvest. A discussion of the TLMP's desired future condition for the Project Area, and a breakdown of projected acres by harvest interval, are included in the Silviculture and Timber Section in Chapter 3 of this EIS.

Table Appendix A-1 displays the Tongass National Forest Sale Schedule for the 5-year period of fiscal years (FY) 1999 through 2003. As is shown in this schedule and the summary in Table Appendix A-2, the timber volume projected to be offered from the Tongass is approximately 225 MMBF per year for the next 5 years, or about 42 MMBF less than the average annual ASQ of 267 MMBF. However, when sales with a high potential for challenge are factored in, the net probable sale offering for the next 5 years is approximately 123 MMBF per year. The Ketchikan Area portion of the ASQ for the next 10 years is 102 MMBF on an average annual basis. See Appendix B of the TLMP for a more detailed discussion. It is currently projected that about 18 MMBF would be available for harvest under the Sea Level Project and that the volume would be offered in multiple sales, starting in 1999.

Areas Suitable for Timber Harvest

The following is a listing, with short descriptions, for the Ketchikan Area, of existing and potential future timber-sale project areas, delineated by logical groupings of VCU's. This represents the majority of sites on the Ketchikan Area with suitable acres for timber harvest.

A Appendix

Central Prince of Wales EIS VCU's 557, 577, 579 to 590, 598 to 601, 549 to 554 and 571 to 574.

The Final EIS and Record of Decision (ROD) for this project were completed in July 1993 with a selected alternative volume of 287 MMBF. Timber-sale offerings were made to the KPC under the long-term contract for most of the volume.

North Revilla EIS VCU's 732, 733, and 735 to 740

The ROD for 205 MMBF was signed in August, 1993. Most of the volume in this project was sold in a system of offerings to the KPC under the Long-Term Contract. One small area was re-evaluated with an Environmental Assessment (EA) and sold under the independent timber-sale program.

Polk Inlet EIS VCU's 610 to 613, 618 to 622, 624, 674, and 675

The ROD for this project was signed in April, 1995. The selected alternative had 112 MMBF of timber volume that has been offered to the KPC and as independent timber sales. The last of the sales from this project are scheduled to be sold in 1999.

Upper Carroll EIS VCU's 737, 744, and 746

The ROD for this project was signed in October, 1996, with a selected alternative volume of 34 MMBF. All of this timber has been sold.

Lab Bay EIS VCU's 527 to 540, and 551

A ROD for 42 MMBF was signed in January, 1997. Approximately one third of this volume was sold in 1997. The project is now under litigation.

Control Lake EIS VCU's 574 to 578, and 591 to 597

A Draft EIS was published in November, 1995, and a supplement to the Draft EIS was published in January, 1998. The ROD was approved in May of 1998.

Chasina EIS VCU's 677 to 681

A Draft EIS was published in February, 1997 and a Final EIS was approved in May of 1998.

Sea Level EIS VCU's 746, 753, 755 to 757, and 759

The Final EIS was published in the spring of 1999.

Cholmondeley EIS VCU's 614, 616, 617, 674, and 675.

Scoping for this project has recently been completed and a Draft EIS is projected in 1999. The Final EIS is projected for 2000.

Port Stewart EIS VCU's 713 to 717, 719, and 722 to 723

The Draft EIS is projected to be completed in 2001 with the Final EIS projected for 2002.

Moiria EIS VCU's 694, 695, 699, and 700 to 704

This project was scheduled for field investigations and scoping in 1998. The Draft EIS is planned for 2000.

Dall Island EIS VCU's on Dall Island

Scoping is scheduled in 2002 with the Draft EIS in 2003 and Final EIS in 2004.

Sukkwon EIS VCU's on Sukkwon Island

Scoping is scheduled in 2002 with the Draft EIS in 2003 and Final EIS in 2004.

Gravina EIS VCU's on Gravina Island

Scoping and the Draft EIS are scheduled in 2000 with the Final EIS projected in 2001.

Note that several sales on the schedule in Table Appendix A-1 have not been listed above, including Staney, North Thorne, Fire Cove, and Sunny Cove. These projects are located within the boundaries of the EISs listed above.

Reasons for Scheduling the Sea Level Project for Environmental Analysis

In addition to the Project Area's relative ability to provide timber, other factors considered in scheduling it for environmental analysis at its projected timber volume level included:

1. This harvest level is consistent with the TLMP.
2. Sufficient volume has been determined to be available in the Project Area.
3. The number and location of log-transfer facilities, or other processing facilities, are sufficient to handle this volume of timber within a 3-year time frame.

Substantial changes in timber demand or other circumstances could affect the rate at which various areas proceed through the NEPA process or the timing of actual timber-sale offerings, but these changes are not expected to alter the sequence for initiating and completing the NEPA process for various areas. Time periods of relatively low market demand provide an opportunity to increase available timber supply in anticipation of cyclical higher demand periods. All areas in which commercial timber harvest is authorized under the TLMP are expected to receive some level of timber harvest at some time if the TLMP is to be fully implemented. Total environmental impacts viewed in the long term are not expected to differ substantially depending upon the order in which different areas are entered. Projects farthest along in the NEPA process are the highest priority to consider for implementation, to meet timber supply, timber-sale program, and TLMP objectives.

A Appendix

Table Appendix A-1

Tongass National Forest Timber-Sale Schedule for Fiscal Years (FY) 1998 to 2003

NEPA PROJECT	SALE NAME	VOLUME (MMBF)
Chatham Area		
FY 98		
	Small District Sales	0.6
	Small District Sales*	0.3
NW Baranof	Rodman Bay**	31.2
FY 99		
NW Baranof	Lisa Creek	6.0
8-Fathom	Neka I	9.0
	Small Sales	2.5
FY 00		
Ushk Bay	Poison Cove	19.1
Indian River	Indian River	14.0
	Small Sales	1.0
FY 01		
Port Houghton	Little Lagoon	26.0
Indian River	Ten Mile	7.0
	Small Sales	2.0
FY 02		
8-Fathom	Neka 2	5.0
Finger Mountain	Crab Bay I	14.2
Finger Mountain	Broad Creek	12.4
	Small Sales	2.0
FY 03		
Ushk Bay	Ushk Bay I	14.1
Port Houghton	North Houghton	11.0
Finger Mountain	Inbetween	6.1
	Small Sales	2.0

Continued next page

Table Appendix A-1, continued.

Tongass National Forest Timber-Sale Schedule for Fiscal Years (FY) 1998 to 2003

NEPA PROJECT	SALE NAME	VOLUME (MMBF)
Stikine Area		
FY 98		
South Lindenberg	South Lindy	10.6
Shamrock	Clover**	17.4
Etolin	Etolin	2.1
Turn	Turn	1.7
Crane/Rowan	Rowan Mountain**	20.2
Crane/Rowan	Crane**	8.4
Todahl BL	Todahl BL*	7.9
Twin Creek	Twin Creek**	3.0
Canal/Hoya	Canal/Hoya***	15.0
Nemo Loop	Nemo**	6.6
South Lindenberg	Dakota**	0.3
South Lindenberg	South Lindy SS I**	1.6
Bohemia	Bo	1.3
	Small District Sales*	0.1
	Small District Sales	0.1
FY 99		
Houghton/Fanshaw	Fanshaw I	31.0
Crystal Creek	Crystal Creek	10.0
South Zarembo	Skipping Cow	25.0
Deer Island	Kuakan	17.0
Wrangell Ranger District Small Sales	Wrangell Ranger District Small Sales	2.0
South Lindenberg	South Lindy I	2.0

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A Appendix

Table Appendix A-1, continued.

Tongass National Forest Timber-Sale Schedule for Fiscal Years (FY) 1998 to 2003

NEPA PROJECT	SALE NAME	VOLUME (MMBF)
Stikine Area, continued		
FY 00		
Madan	Madan	25.0
King George	Honeymoon	2.0
South Lindenberg	South Lindenberg II	10.0
Woodpecker	Woodpecker	10.0
East Kuiu	Kuiu I	22.0
Etolin	Camp Carl	1.0
Wrangell Ranger District Small Sales	Wrangell Ranger District Small Sales	1.0
Shamrock	Shamrock Small Sales	2.0
FY 01		
Douglas	Douglas I	39.0
Frenchy	Frenchy	3.0
Woodpecker	Track	5.0
Etolin	Mosman	15.0
Woronkofski	Woronkofski	10.0
Wrangell Ranger District Small Sales	Wrangell Ranger District Small Sales	1.0
South Lindenberg	South Lindy Small Sale 4	1.0
South Lindenberg	South Lindy II	2.0
FY 02		
Etolin	Whaletail	15.0
Sunny Bay	Sunny Bay	10.0
East Kuiu	Kuiu II	40.0
Sumner	Sumner	6.0
Wrangell Ranger District Small Sales	Wrangell Ranger District Small Sales	5.0
South Lindenberg	South Lindy Small Sale 5	1.0
South Lindenberg	South Lindy III	2.0

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Table Appendix A-1, continued.

Tongass National Forest Timber-Sale Schedule for Fiscal Years (FY) 1998 to 2003

NEPA PROJECT	SALE NAME	VOLUME (MMBF)
Stikine Area, continued		
FY 03		
East Kuiu	Kuiu III	20.0
Scott Peak	Scott Peak	15.0
Overlook	Overlook	5.0
Crystal Creek	Ess Lake	5.0
Etolin	Olive Cove	10.0
Back Channel	Back Channel	10.0
South Lindenberg	South Lindy IV	2.0
South Lindenberg	South Lindy Small Sale 6	1.0
South Lindenberg	South Lindy Small Sale 7	1.0
Wrangell Ranger District Small Sales	Wrangell Ranger District Small Sales	2.0
Petersburg Ranger District Small Sales	Petersburg Ranger District Small Sales	2.0
Ketchikan Area		
FY 98		
Cloudy	Cloudy	2.8
Brand X	Brand X*	1.8
	Peep Rock	1.5
Polk Inlet	Cable/Drop*	11.8
Chasina	Dumpy ATC*	19.7
Picasso	Picasso	0.6
Lab Bay	Big Bob*	7.2
Lab Bay	Summit/Exchange*	11.0
Control Lake	Wolf Pup*	1.2
Control Lake	North Thorne	2.3
Control Lake	Big Salt**	8.2
Control Lake	West Steel	0.3
Control Lake	Hard Steel*	4.8

Continued next page

A Appendix

Table Appendix A-1, continued.

Tongass National Forest Timber-Sale Schedule for Fiscal Years (FY) 1998 to 2003

NEPA PROJECT	SALE NAME	VOLUME (MMBF)
Ketchikan Area, continued		
FY 98, continued		
Control Lake	Lower Rio Beaver	0.1
Control Lake	Musk Rat*	0.1
Control Lake	Rio Beaver*	5.6
Control Lake	Rush Fast*	0.8
Control Lake	Rush Angel*	5.8
	Twin Mountain Salvage	0.7
	Small District Sales	1.0
	Small District Sales*	2.4
FY 99		
Ketchikan/Misty Small Sales	Small Sales	0.5
Sea Level	Toe-Dance	6.2
Sea Level	Madder	13.0
Sea Level	Ten Pin	2.6
Sea Level	Orion	11.8
Polk Inlet	Longline	2.9
Polk Inlet	Lowboy	1.1
Chasina	South Arm	7.9
Chasina	Port Johnson	11.0
Chasina	North	7.5
LYD & Small Sales	LYD & Small Sales	2.0
Thorne Bay Small Sales	Thorne Bay Small Sales	5.0
Control Lake	Beaver Pond	0.3
Control Lake	Steel/Roberts	3.9
Control Lake	Logjam	1.8
Control Lake	Kogish	7.5
Control Lake	Control Lake B	10.0

Continued next page

Table Appendix A-1, continued.

Tongass National Forest Timber-Sale Schedule for Fiscal Years (FY) 1998 to 2003

NEPA PROJECT	SALE NAME	VOLUME (MMBF)
Ketchikan Area, continued		
FY 00		
Sea Level	Mesa	12.1
Craig Small Sales	Craig Small Sales	2.0
Cholmondeley	Sunny Cove	14.0
Cholmondeley	Dr. Point	15.7
Thorne Bay Small Sales	Thorne Bay Small Sales	5.0
Lab Bay	Thorne Island	3.5
Control Lake	Control Lake A	12.0
Staney	Staney Creek 1	10.0
Luck Lake	Luck Lake 1	5.0
Luck Lake	Luck Lake 2	8.0
Emerald Bay	Emerald Bay	10.0
Salty	Salty	5.0
FY 01		
Craig Small Sales	Craig Small Sales	2.0
Cholmondeley	Skowl	6.7
Moir	Perkins	23.0
Thorne Bay Small Sales	Thorne Bay Small Sales	5.0
Staney	Staney Creek 1	10.0
Staney	Staney Creek 2	15.0
Cedar Decline	Cedar	5.0
North Gravina	Dutchman	8.0
North Gravina	Friar	7.0
North Gravina	Fling	7.0
North Gravina	Palisade	8.0
FY 02		
Port Stewart	Cabala	35.0
Craig Small Sales	Craig Small Sales	2.0

Continued next page

A Appendix

Table Appendix A-1, continued.

Tongass National Forest Timber-Sale Schedule for Fiscal Years (FY) 1998 to 2003

NEPA PROJECT	SALE NAME	VOLUME (MMBF)
Ketchikan Area, continued		
FY 02, continued		
Moira	Black	11.3
Moira	Frederick	11.0
North Dall	Dall	10.0
Control Lake	Control Lake C	9.6
North Thorne	Thorne 1A	4.6
North Thorne	Thorne 2	5.0
Kosciusko Old Growth	KOS 1	8.0
Kosciusko Old Growth	KOS 3	3.0
FY 03		
Square Island	Abney	10.0
Square Island	Stump	10.0
Licking Creek	Licking Creek	10.0
South Gravina	South Gravina	12.0
Craig Small Sales	Small Sales	2.0
Scratching	Santa	24.0
Droppings	Drops	10.0
Thorne Bay Small Sales	Small Sales	5.0
North Thorne	Thorne 1B	3.5
North Thorne	Thorne 3	5.0
North Thorne	Thorne NIC2	5.0
Kosciusko Old Growth	KOS 2	4.0
Kosciusko Old Growth	KOS 4	5.0
Red Bay	Red 1	3.0
Red Bay	Red 2	1.0
Red Bay	Red 3	1.0
Sarkar	Sarkar 1	6.0

Source: TLMP 1997.

* "Shelf Volume" from timber sales offered, but unsold.

** Advertised for sale in FY 98; actual bid opening date scheduled in FY 99.

*** EIS is currently under appeal.

Table Appendix A-2
Timber-Sale Schedule Summary—Volume (MMBF) by Fiscal Year

	FISCAL YEAR					Average 1999 to 2003
	1999	2000	2001	2002	2003	
Chatham Area	18	34	35	34	33	31
Stikine Area	88	86	79	79	73	81
Ketchikan Area	95	102	97	100	116	102
Tongass National Forest	201	222	211	213	222	214

Source: TLMP 1997.

Literature Cited

- Alaska Native Claims Settlement Act (ANCSA). 1971. Public Law 92-203, U.S. Congress, 92nd Congress. 85 Stat. 688-716.
- U.S. Department of Agriculture. 1997. *Tongass Land Management Plan*. Forest Service, Tongass National Forest, R10-MB-338dd. Alaska Region, Juneau, Alaska.
- Tongass Timber Reform Act (TTRA). 1990. Public Law 101-626.23 October.
- National Environmental Policy Act of 1969, as amended. Public Law 91-90, 42 USC 4321-4347, January 1, 1970, as amended by Public Law 94-52, July 3, 1975, and Public Law 94-83, August 9, 1975.
- Seley, Alan. 1998. *Personal Communication*. Ketchikan, Alaska.
- Brooks, D. and R. Haynes. 1997.
- Wrangell Sentinel. January 15, 1998. Wrangell, Alaska.



END APPENDIX A

Appendix B

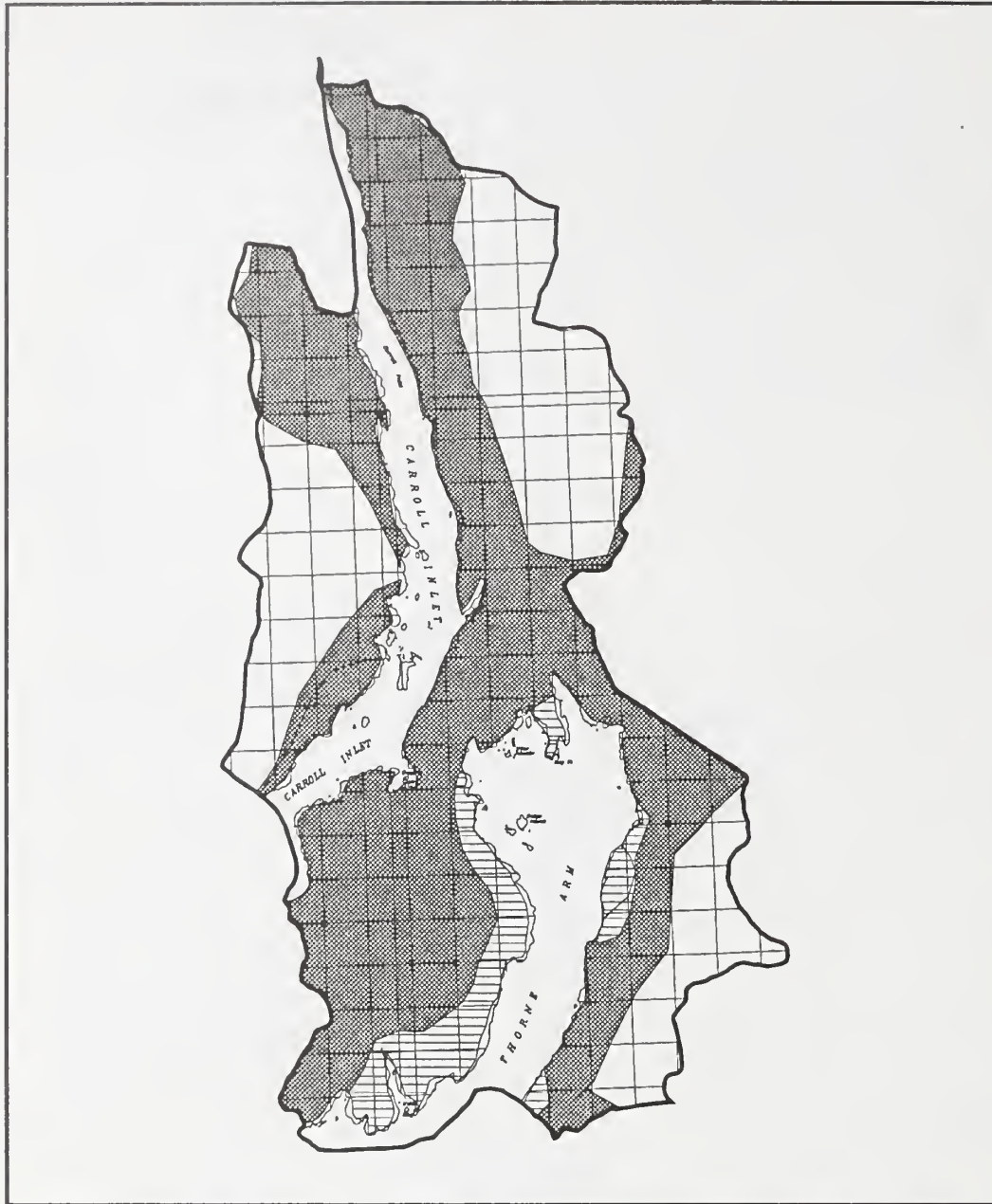
Subsistence Maps

In the following pages, areas of subsistence are illustrated through a series of maps. These maps are organized as follows:

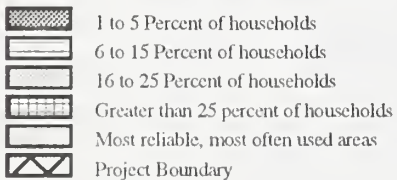
- Deer for Metlakatla, Saxman and Wrangell,
- Finfish for Saxman and Wrangell,
- Invertebrates for Saxman,
- Marine mammals for Saxman and Wrangell, and
- Salmon for Metlakatla and Saxman.

B Appendix

Metlakatla Subsistence Deer Hunting Areas



Plotting Date February 23, 1988



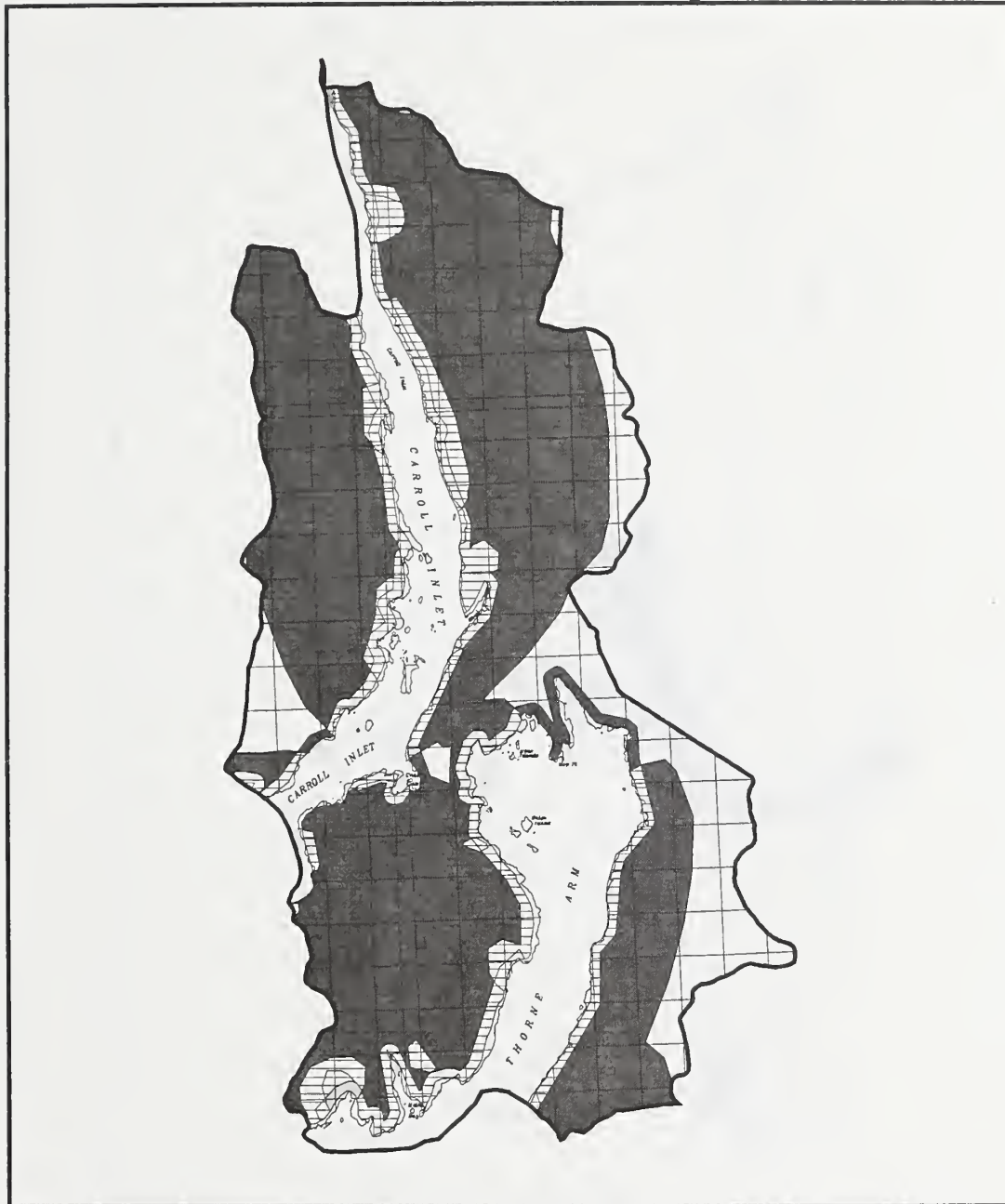
Source: TRUCS, 1988; GIS

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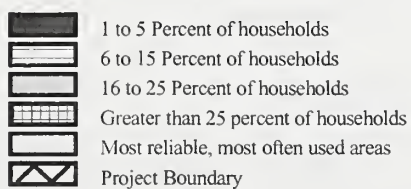
Scale is 1 Inch = 3.45 Miles

Saxman Subsistence Deer Hunting Areas



Plotting Date February 22, 1998

Mapscale 1:218872

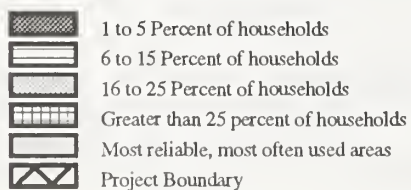
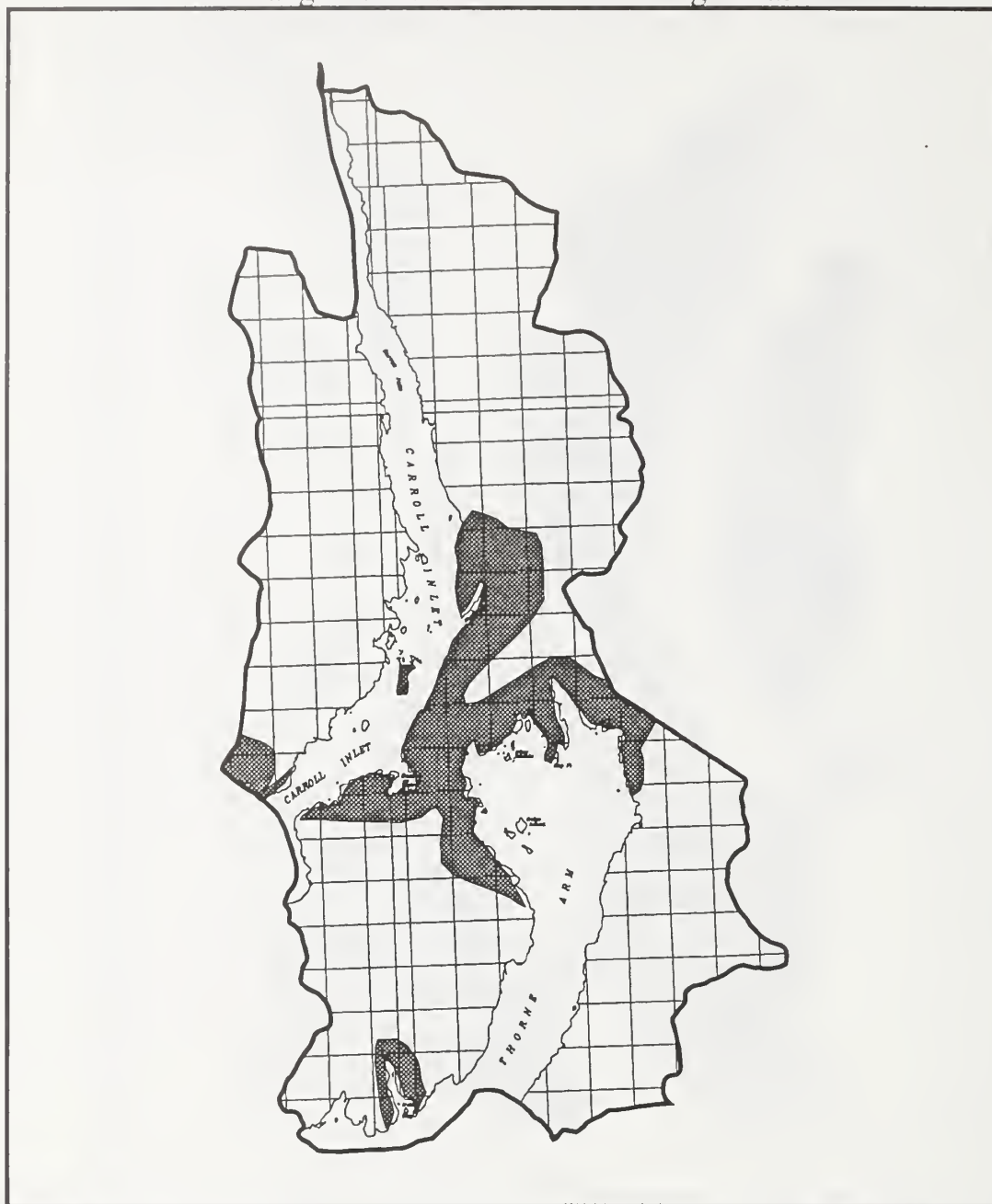


Scale is 1 Inch = 3.45 Miles

Source: TRUCS, 1988; GIS

B Appendix

Wrangell Subsistence Deer Hunting Areas



Source: TRUCS, 1988; GIS

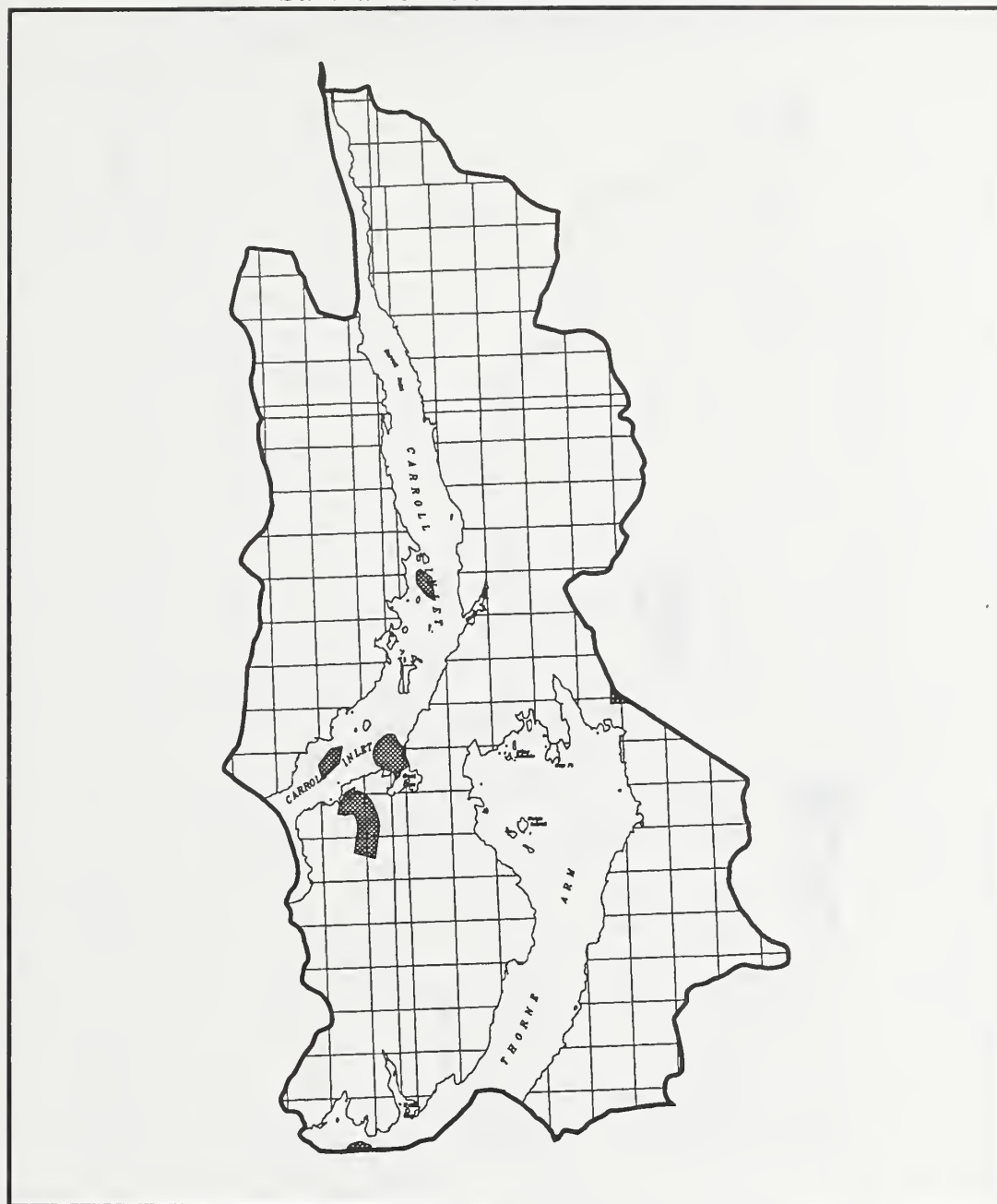
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Mapscale 1:218872

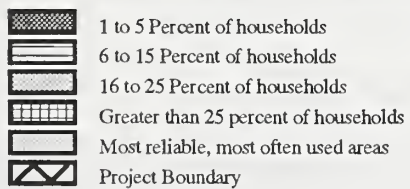


Scale is 1 Inch = 3.45 Miles

Saxman Subsistence Finfish Areas



Polling Date February 23, 1988



Mapscale 1:218872

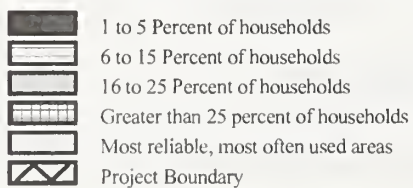
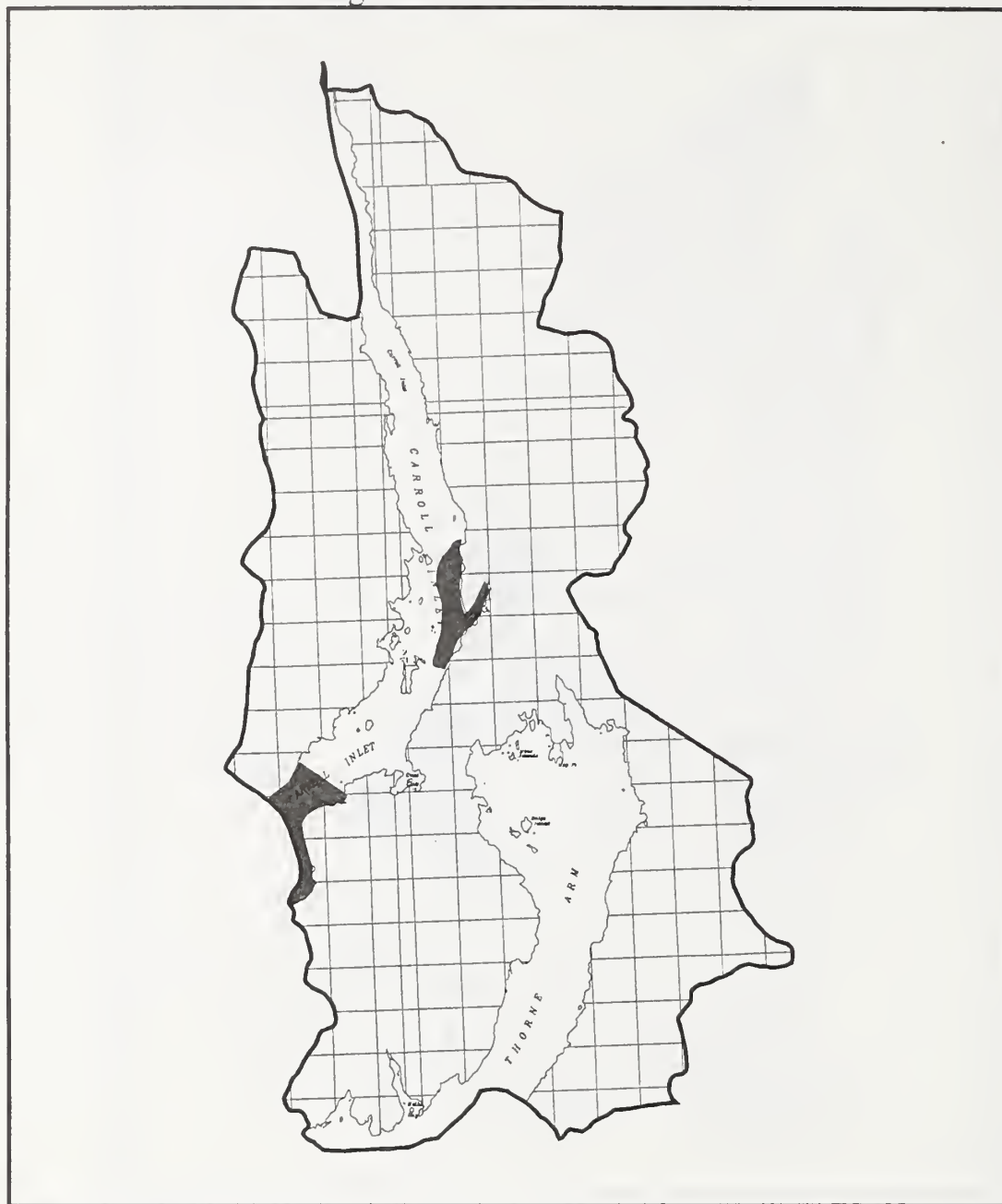


Scale is 1 Inch = 3.45 Miles

Source: TRUCS, 1988; GIS

B Appendix

Wrangell Subsistence Finfish Areas



Source: TRUCS, 1988; GIS

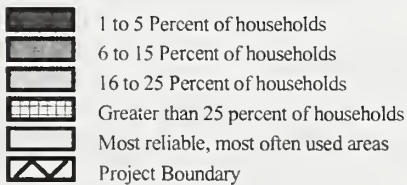
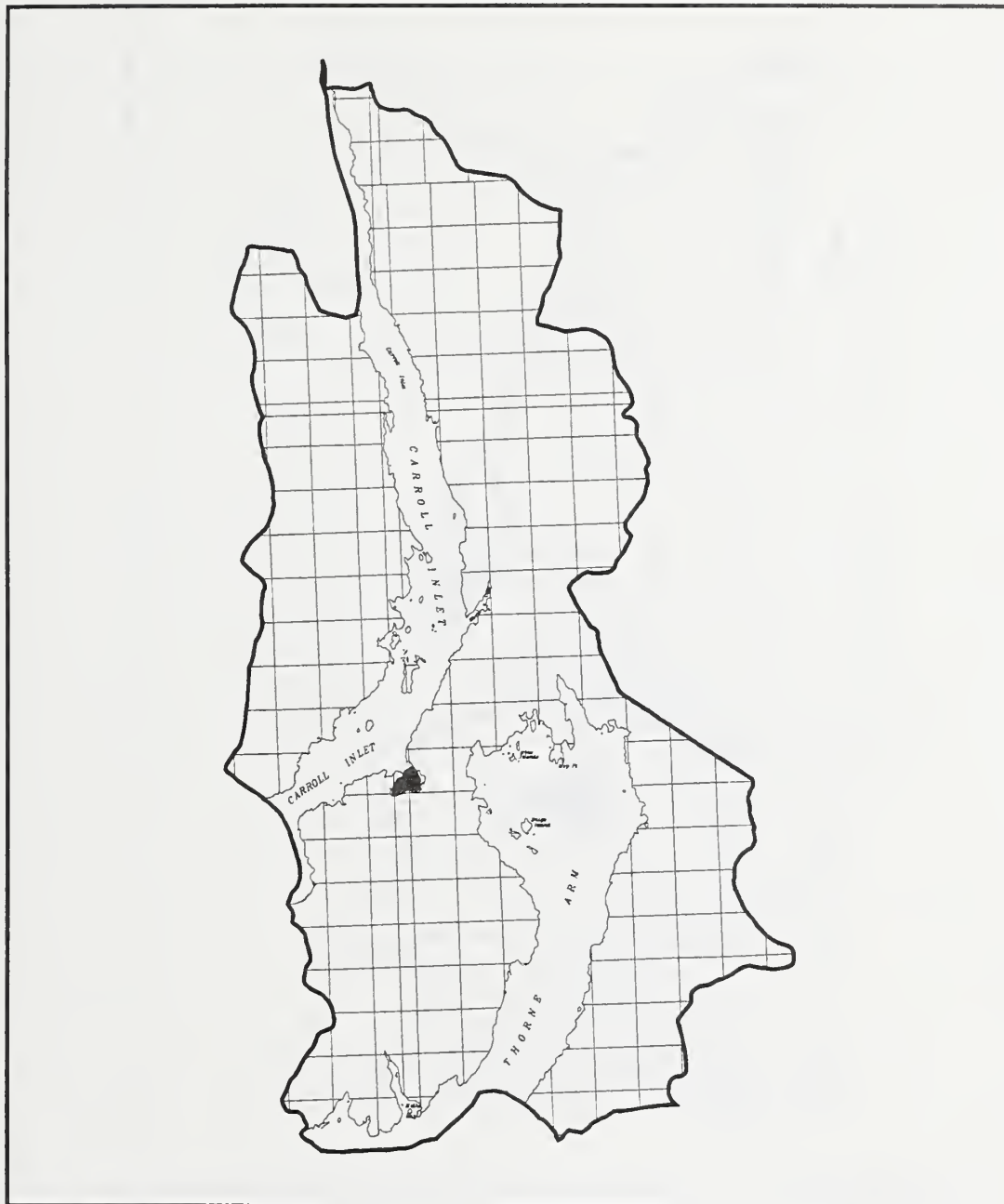
Plotting Date: February 23, 1998

Mapscale 1:218872



Scale is 1 Inch = 3.45 Miles

Saxman Subsistence Invertebrae Areas



Plotting Date: May 15, 1997

Mapscale 1:218872

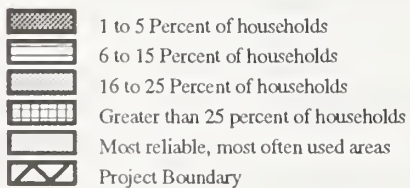
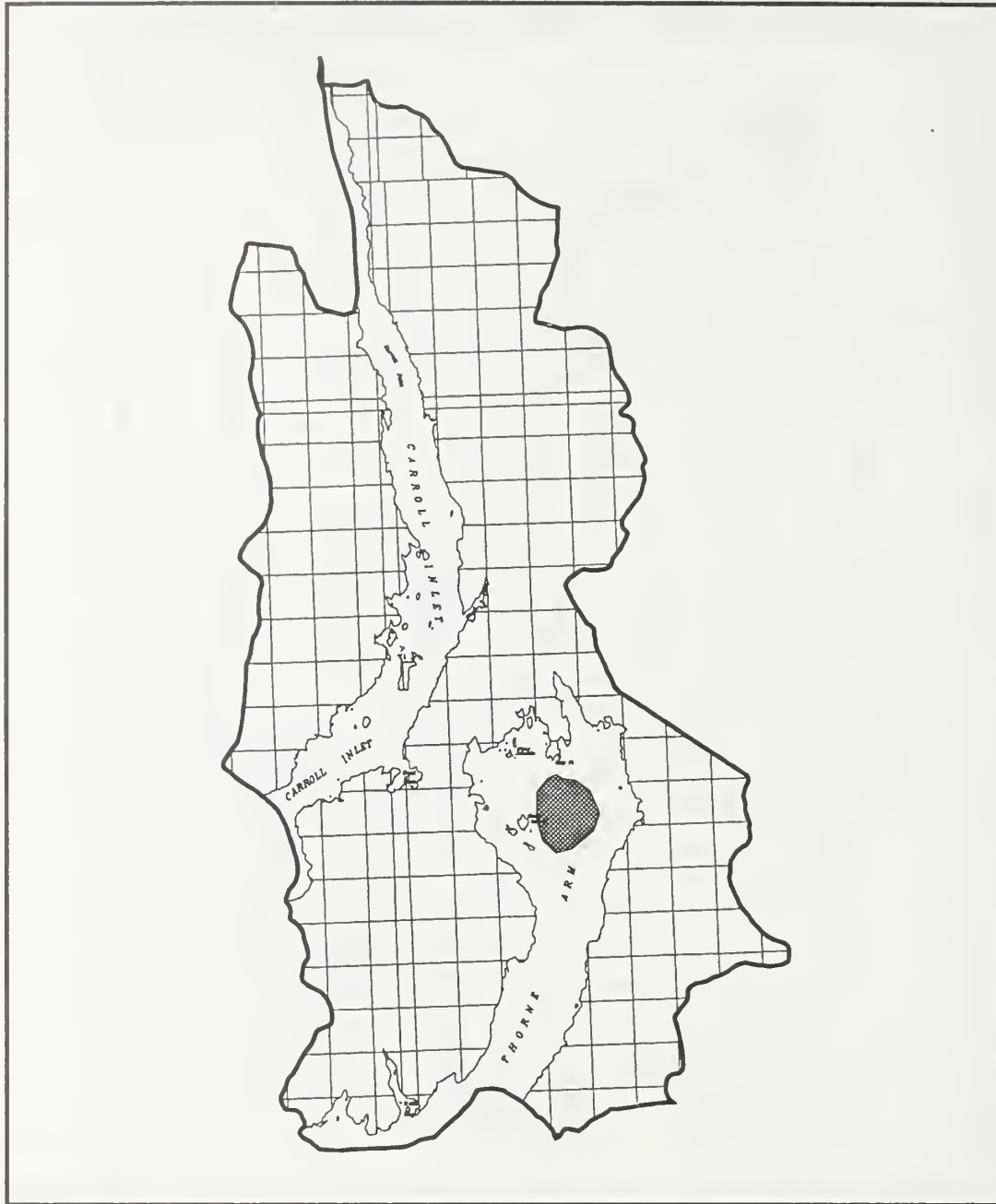


Scale is 1 Inch = 3.45 Miles

Source: TRUCS, 1988; GIS

B Appendix

Saxman Subsistence Marine Mammal Areas



Source: TRUCS, 1988; GIS

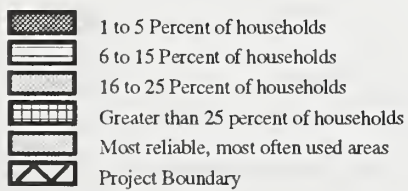
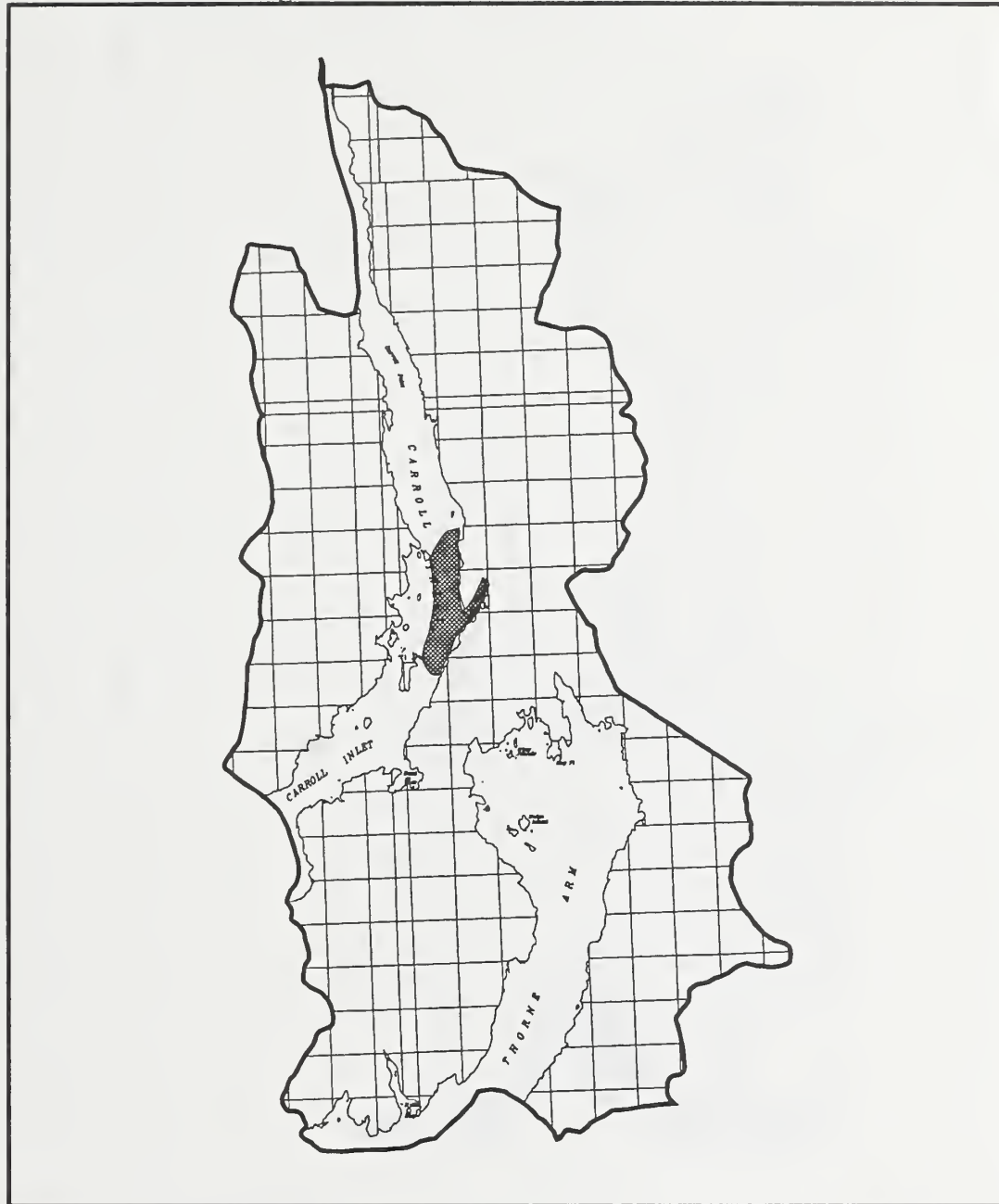
Plotting Date February 23, 1988

Mapscale 1:218872



Scale is 1 Inch = 3.45 Miles

Wrangell Subsistence Marine Mammal Areas



Rolling Date February 23, 1998

Mapscale 1:218872

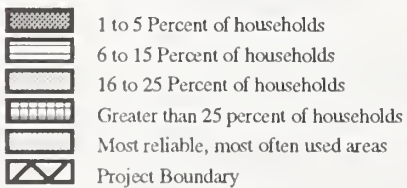
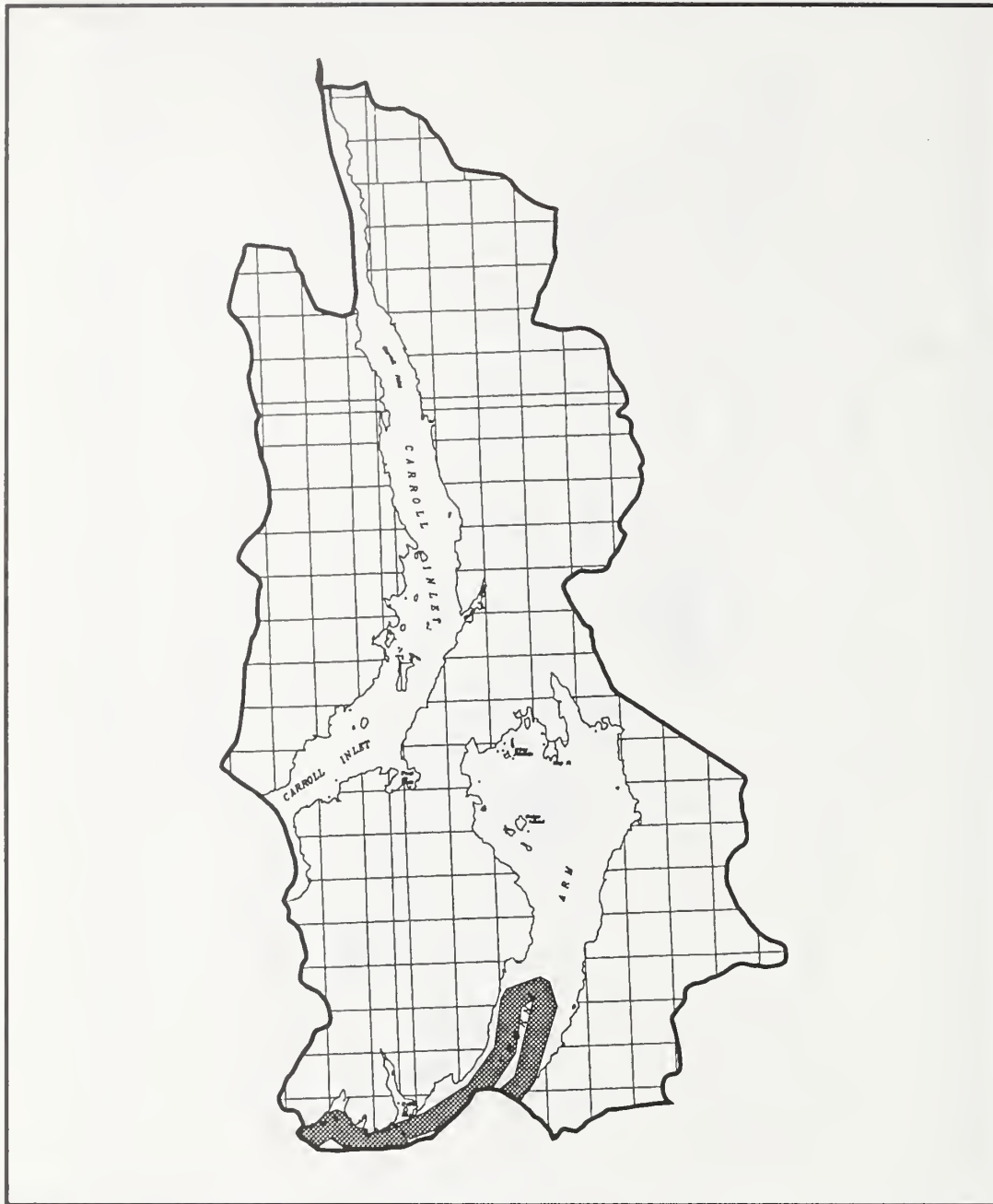


Scale is 1 Inch = 3.45 Miles

Source: TRUCS, 1988; GIS

B Appendix

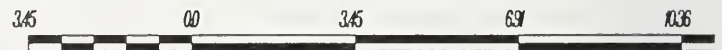
Metlakatla Subsistence Salmon Areas



Source: TRUCS, 1988; GIS

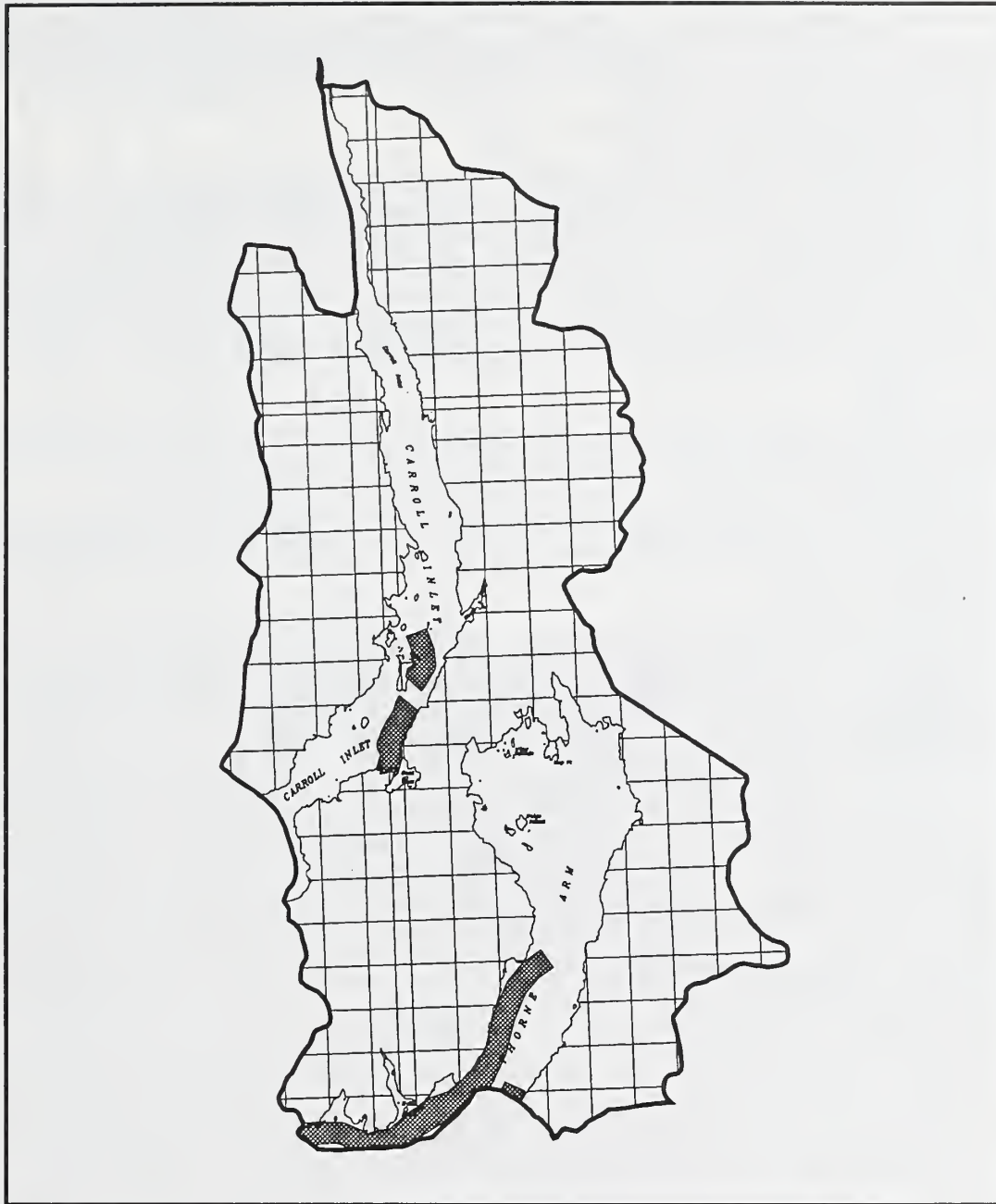
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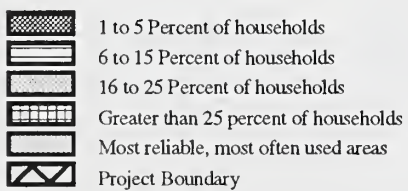


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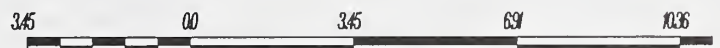
Saxman Subsistence Salmon Areas



Plotting Date February 23, 1998



Mapscale 1:218872



Scale is 1 Inch = 3.45 Miles

Source: TRUCS, 1988; GIS

B Appendix



END APPENDIX B

Appendix C

Biological Assessment and Biological Evaluation

Biological Assessment and Biological Evaluation

Threatened, Endangered and Sensitive Species

Prepared By: Kerry A. Burns
Wildlife Biologist, Ketchikan Ranger District,
Tongass National Forest

Phyllis Woolwine
Botanist, Ketchikan Area, Tongass National Forest

Approved By:

Cole Crocker-Bedford Date 2/17/99

Cole Crocker-Bedford
Wildlife Biologist, Ketchikan Area, Tongass National Forest

C Appendix



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
P.O. Box 21668
Juneau, Alaska 99802-1668

JCS

March 23, 1999

RECEIVED

MAR 29 1999

USDA Forest Service
KRD/MFNM

Mr. Jeremiah C. Ingersoll
District/Monument Ranger
Ketchikan Ranger District
Misty Fiords National Monument
3031 Tongass Avenue
Ketchikan, Alaska 99901

Dear Mr. Ingersoll:

We have reviewed your Biological Assessment and Biological Evaluation for Threatened, Endangered, and Sensitive Species for the Sea Level Timber Sale. We concur with your determination that no threatened or endangered species or designated critical habitats under the jurisdiction of the National Marine Fisheries Service are likely to be affected by the proposed action. Pursuant to Interagency Cooperation (50 CFR 402.13(a)), this consultation is terminated.

We appreciate your efforts in continued coordination with the National Marine Fisheries Service. Should you have any further questions regarding this consultation, please contact Andrew Grossman, Habitat Conservation Division, (907) 586-7356.

Sincerely,

For Steven Pennoyer
Steven Pennoyer
Regional Administrator





United States Department of the Interior

FISH AND WILDLIFE SERVICE
Juneau Field Office
3000 Vintage Blvd., Suite 201
Juneau, Alaska 99801-7100
(907) 586-7240

IN REPLY REFER TO:

Jeremiah Ingersoll
District/Monument Manager
USDA, Forest Service
Tongass National Forest
Ketchikan Ranger District
3031 Tongass Avenue
Ketchikan, AK 99901

Dear Mr. Ingersoll:

The U.S. Fish and Wildlife Service has reviewed the biological assessment, dated February 19, 1999, for threatened and endangered species that may occur in the vicinity of the proposed Sea Level Timber Sale, along Carroll Inlet, on Revillagigedo Island, near Ketchikan, Alaska. The assessment evaluated the effects of proposed actions on the endangered American peregrine falcon (Falco peregrinus anatum).

For the purposes of Section 7 consultation, we agree that populations of the American peregrine falcon will not likely be adversely affected as a result of the proposed project.

These comments are offered for endangered and threatened species for which the U.S. Fish and Wildlife Service has responsibility under Section 7 of the Endangered Species Act of 1973 (16 USC 1521 et seq.) and its amendments. The above comments are specific to the Endangered Species Act and do not reflect agency concerns regarding other organisms or habitats for which the Service has legislated responsibilities.

Sincerely,

for John Lindell
Endangered Species Biologist

USDA FOREST SERVICE	
KETCHIKAN R.D.	
MISTY FJORDS N.M.	
RECEIVED	
MAR-4 '99	
<input checked="" type="checkbox"/>	RANGER
<input type="checkbox"/>	RECA/MIL/MS
<input type="checkbox"/>	MISTY FJ
<input checked="" type="checkbox"/>	PLANNING
<input checked="" type="checkbox"/>	FISH/WILDF
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<input type="checkbox"/>	S.S.S.
<input type="checkbox"/>	TIMBER
<input type="checkbox"/>	SEAVC
<input checked="" type="checkbox"/>	Planning/Recland

March 1, 1999

Introduction

This combined Biological Assessment (BA) and Biological Evaluation (BE) was prepared for the Sea Level Timber Sale as required by Section 7 of the Endangered Species Act (ESA), as amended, and the USDA Forest Service Threatened, Endangered and Sensitive, Plant and Animal Species Policy (FSM 2670). This document describes the occurrence of and Project effects on species that are Federally listed or proposed for Threatened or Endangered status. This document also serves as a BE by including equivalent information on Forest Service sensitive species. The BE is not required under ESA, but is required by the Forest Service for all internal programs and activities (FSM 2672.4).

An environmental impact statement (EIS) is being prepared for the Sea Level Project Area. The action includes the harvest of between 400 and 2,800 acres of old-growth forest, construction of 10 to 58 miles of new roads, and the use of the existing log-transfer facilities (LTFs) and road systems at Shoal Cove, Shelter Cove and Elf Point. The Sea Level Project Area includes 120,818 acres, approximately 15 miles northeast of Ketchikan, Alaska. It encompasses an area of southern Revillagigedo (Revilla) Island surrounding Carroll Inlet and Thorne Arm.

Lists of Species Covered in this Document and the Overall Finding for Each Species

Federal Threatened and Endangered Species

Threatened and Endangered Species potentially occurring in the Project Area were identified through consultation with the US Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS). Consultation correspondences will be located in the Sea Level Project Planning Record. Table Assessment and Evaluation-1 lists the Threatened and the Endangered Species that may occur in or near the Project Area, and summarizes the findings of this document.

Table Assessment and Evaluation-1
Threatened and Endangered Species that May Occur in or Near the Sea Level Project Area

Common Name	Scientific Name	ESA Status	Summary of BA/BE Finding
Humpback whale	<i>Megaptera novaeangliae</i>	Endangered	No effect
Steller sea lion	<i>Eumetopias jubatus</i>	Threatened	No effect
Snake River sockeye salmon	<i>Onchorhynchus nerka</i>	Endangered	No effect
Snake River spring/summer Chinook salmon	<i>Onchorhynchus tshawytscha</i>	Threatened	No effect
Snake River fall Chinook salmon	<i>Onchorhynchus tshawytscha</i>	Threatened	No effect
American peregrine falcon	<i>Falco peregrinus anatum</i>	Endangered	No effect

Forest Service Sensitive Species

The Forest Service has identified Sensitive Plant and Animal Species that could potentially occur in or near the Project. Table Assessment and Evaluation-2 lists Sensitive Species which may occur in the Project Area, and summarizes the findings of this document.

Table Assessment and Evaluation-2

Alaska Region Sensitive Species that May Occur in the Sea Level Project Area

Common Name	Scientific Name	Summary of BA/BE Finding
Trumpeter swan	<i>Cygnus buccinator</i>	Not likely to adversely affect
Queen Charlotte goshawk	<i>Accipiter gentilis laingi</i>	May affect individuals; not likely to adversely affect population viability
Osprey	<i>Pandion haliaetus</i>	No effect
Peale's peregrine falcon	<i>Falco peregrinus pealei</i>	No effect
Goose-grass sedge	<i>Carex lenticularis</i> var. <i>dolia</i>	No effect
Edible thistle	<i>Cirsium edule</i>	No effect
Davy mannagrass	<i>Glyceria leptoctachya</i>	May affect individuals; not likely to adversely affect population viability
Wright filmy fern	<i>Hymenophyllum wrightii</i>	May affect
Truncate quillwort	<i>Isoetes truncata</i>	No effect
Calder lovage	<i>Ligusticum calderi</i>	Not likely to adversely affect
Choris bog orchid	<i>Platanthera chorisiana</i>	May affect individuals; not likely to adversely affect population viability
Bog orchid	<i>Platanthera gracilis</i>	Not likely to adversely affect
Loose-flowered bluegrass	<i>Poa laxiflora</i>	May affect individuals; not likely to adversely affect population viability
Straight-beak buttercup	<i>Ranunculus orthorhynchus</i> var. <i>alaschensis</i>	Not likely to adversely affect
Queen Charlotte butterweed	<i>Senecio moresbiensis</i>	Not likely to adversely affect

C Appendix

Other Species

In addition to the above groupings of officially listed Endangered, Threatened and Sensitive species, other species may also be of concern under the National Forestry Management Act regulations, which requires that viable populations be maintained in a well distributed manner. Although a primary purpose of the USFS Sensitive Species list is to ensure viability in a well-distributed manner for all species, other species with a viability concern in the Project Area need to be addressed. These species are listed in Table Assessment and Evaluation-3, and summarizes the findings of this document.

Table Assessment and Evaluation-3
Alaska Region Species of Concern that May Occur in the Sea Level Project Area

Common Name	Scientific Name	Summary of BA/BE Finding
Alexander Archipelago wolf	<i>Canis lupus ligoni</i>	May affect individuals; not likely to adversely affect population viability
Keen's myotis (Keen's long-eared bat)	<i>Myotis keenii</i>	May affect
Marbled murrelet	<i>Brachyramphus marmoratus</i>	May affect individuals; no effect on population viability.
Harlequin duck	<i>Histrionicus histrionicus</i>	May affect individuals; not likely to adversely affect population viability
Olive-sided flycatcher	<i>Cantopus borealis</i>	No effect
Band-tailed Pigeon	<i>Columba fasciata</i>	May Effect
Columbia Spotted frog	<i>Rana luteiventris</i>	No effect
Ascending moonwort fern	<i>Botrychium ascendens</i>	Not likely to adversely affect
Super-round-wedge moonwort fern	<i>Botrychium</i> , unnamed	Unknown
Willow, no common name	<i>Salix reticulata ssp. glabellcarpa</i>	No effect
Broad-leaf twayblade	<i>Listera convallarioides</i>	May affect
Round-leaf bog orchid	<i>Platanthera orbiculata</i>	May affect individuals; not likely to adversely affect population viability
Pacific silver fir	<i>Abies amabilis</i>	May affect individuals; not likely to adversely affect population viability

Field Surveys

Botanical Surveys

Field assessment for the Project Area began in 1994; since then, all harvest units have been visited by one or more field crews including stand exam, wildlife, archeology, fisheries, soil survey and unit reconnaissance crews. Many of these field personnel had knowledge of plants. Field crews were equipped with sensitive plant identification cards and asked to report any sensitive plants seen during the course of their duties. This method is generally ineffective at locating rare plants. In addition, six cursory plant surveys were conducted by a nonbotanist surveyor in 1996.

A more intensive survey was undertaken in 1997 during which a botanist conducted 16 surveys, assessing 15 proposed harvest units and 1.5 miles of proposed road. Surveys in 1997 followed the "Inventory Protocol for Sensitive and Rare Plants for the Ketchikan Area" (Krosse 1997). The protocol calls for use of the Intuitive Controlled survey method, the standard method for botanical surveys on National Forest Lands. The detailed methods and results of botanical surveys, along with survey routes, can be found in the Planning Record (P.A. Woolwine, report of October 24, 1997).

During prefield review, units and roads were selected for surveying according to two criteria: (1) units and roads were prioritized based on their greater probability for harvest, and (2) aerial photos were then examined for high-likelihood Sensitive Plant habitats in and adjacent to the units and roads.

Goshawk Surveys

The objective of goshawk surveys in the Project Area was to locate goshawk nest sites. Knowledge of nest site locations allows for goshawks to be more accurately considered during Project alternative development and analysis. Standards and Guidelines will be applied to any discovered nests.

Goshawk surveys followed the protocol established for the Alaska Region Goshawk Inventory Protocol, first issued June 24, 1992. Areas with reported goshawk sightings were the first priority for surveys. Sightings ranged in confidence level from low to high. Some reports were for raptors in general. Wildlife crews usually investigated these sightings, if possible, because we felt even a slight possibility of observing a goshawk increased the chances of finding a nest. Reports of sharp-shinned hawks and red-tail hawks were not normally pursued.

Surveys also included time spent observing from vantage points (Crocker-Bedford 1997). If the protocol station fell at a good vantage point, field crews would often spend 30 minutes or an hour sitting and looking for goshawks. We felt this increased our chances of spotting a goshawk. If a goshawk was spotted, we could then concentrate our surveys in that direction.

While this method is the best available at this time, it does not guarantee that all nests will be found. In fact, we suspect many nests are not found, even if the surveys are conducted close to the nest.

Field crews completed surveys along 84 routes (transects) (see Map 1) that included 505 broadcast stations. Approximately 387 call stations were located in or adjacent to potential harvest units. Of the total potential unit pool (245 units), 103 potential harvest units each contained at least one call station. Field crews found no goshawk nests. A crew recorded one possible goshawk detection on 6/28/95 near Unit 21, but conditions were such that they could not positively identify the raptor. The crew reported another raven-sized raptor detection in the same area on 7/25/95. Crews found plucking posts in Units 98 and 66, but they could have been from a sharp-shinned hawk since the prey species were quite small.

District records and databases indicate several incidental goshawk sightings within the Project Area. The two most dependable sightings, both in 1996, were reported about 1,000 feet east of Unit 60 and near Unit 45. Wildlife crews surveyed these areas in 1996 but did not locate a

Marbled Murrelet Surveys

nest or record additional goshawk detections. The crew recorded a red-tailed hawk vocal detection near Unit 60 on 8/6/96.

We completed dawn counts at seven sites to check presence or absence of marbled murrelets. Surveys at each station followed the protocol for inland intensive dawn counts (Paton et al. 1990). Crews detected murrelets at all but one site. The Sea Level Creek area (VCU 7552) showed the most detections of the areas surveyed; however, the surveys in Sea Level Creek were completed in late July when the detection rate is typically at its peak. This could account for the higher number of birds detected there. The data are insufficient to suggest higher concentrations of murrelets in different parts of the Project Area.

Amphibian Surveys

Field crews conducted surveys in April, May, and June when spotted frogs are most active. Minnow traps were baited with minced clams and set in appropriate habitats. The bait was placed in perforated zip-loc bags. Traps were placed in areas with submerged or partially emergent aquatic vegetation. Traps were left overnight, sometimes 2 days, before retrieval.

Surveys were concentrated in shallow, fresh-water habitat along slow-moving streams, including ponds, lakes, and side channels along fresh-water streams. Surveys were located in the highest value habitat with the highest probability of finding spotted frogs, whether or not in a harvest unit or road right-of-way.

Field crews set 10 traps at 6 locations in 1996 and 12 traps at 4 locations in 1997. A total of 22 traps were set for a total of 34 trap nights. Numerous rough-skinned newts were captured, but no spotted frogs were captured.

Incidental Observations

There are a number of other species in the Project Area about which we wanted to know more information, but did not feel species-specific surveys were justified or cost effective. Some species have Tongass Land Management Plan (TLMP 1997) Standards and Guidelines while others are USFWS Species of Concern or Region 10 Sensitive Species.

The objectives of recording incidental observations were:

- to be able to update the existing database (for example, trumpeter swans, marine mammal haulouts, etc.);
- to document key sites, such as dens or nests, that were discovered within the Project Area; and
- to supplement data collected during protocol surveys.

We encouraged all field-going personnel to report desired wildlife observations through the use of standard wildlife-observation cards and discussions with wildlife biologists. Listed below are the species which we encouraged people to report immediately so biologists could follow up on the reports as soon as possible.

Osprey
Great blue heron rookeries
Goshawk
Peregrine falcons
Large (12"-36") stick nests (not eagle)
Marbled murrelet eggs or nests
Spotted frogs

Listed below are additional species we encouraged all crews to report. Timeliness of the report was less critical for these species. We did not follow up with a visit for most of these observations.

- Trumpeter swans
- Whale observations
- Harlequin ducks
- Wolf dens, sightings or howling
- Canada goose
- Bear concentrations or dens
- Sand Hill crane
- Wolverine
- Band-tailed pigeon
- Mountain goats
- Olive-sided flycatcher
- Bald-eagle nests

This method of field survey is useful in documenting presence of a species, but does not document absence of a species or the density of a species. Many undiscovered individuals or nests may occur in the Area. However, field personnel frequently work in the Sea Level Area. Therefore, many of the larger, more easily identified species are often reported as incidental observations.

Incidental observations included six possible goshawk sightings, none of which could be confirmed. Crews reported 15 to 25 seals hauled out in Thorne Arm near Snipe and Minx Islands. Crews reported two olive-sided flycatcher observations. Crews reported trumpeter swans at Gnat Cove, North Saddle Lakes, and Low Lake. Wolves were reported in most parts of the Project Area.

Biological Assessment for Threatened and Endangered Species

Humpback Whale

Humpback whales are the most abundant of the eight species of endangered whales that occur in Southeast Alaska waters. Their population in the North Pacific is about 1,200, which is about 8 percent of the prewhaling population. These whales are regularly sighted in the Inside Passage and coastal waters of the Southeast Alaska panhandle from Yakutat Bay south to Queen Charlotte Sound. Humpback whales feed in Southeast Alaskan panhandle waters from about May through December, although some have been seen every month of the year. Peak numbers of whales are usually found in nearshore waters during late August and September, but substantial numbers usually remain until early winter. Baker et al. (1985) estimate that 300 to 350 humpback whales inhabit Southeast Alaska during the summer and fall.

The local distribution of humpbacks in Southeast Alaska appears to be correlated with the density and seasonal availability of prey, particularly herring (*Clupea harengus*) and euphausiids. Important feeding areas include Glacier Bay and adjacent portions of Icy Strait, Stephens Passage/Frederick Sound, Seymour Canal and Sitka Sound. Glacier Bay and Icy Strait appear to be an important feeding area early in the season, when whales prey heavily on herring and other small, schooling fishes. Frederick Sound is important later in the summer, when whales feed on swarming euphausiids. During autumn and early winter, humpbacks move out of the Sound to areas where herring are abundant, particularly Seymour Canal. Other areas of Southeast Alaska may also be important for humpbacks and need to be

evaluated. These include: Cape Fairweather, Lynn Canal, Sumner Strait, Dixon Entrance, the west coast of Prince of Wales Island, and offshore banks such as the Fairweather Grounds.

Because the humpback inhabits shallow coastal areas, it is increasingly exposed to human activity. Consequently, these whales may be more susceptible to confrontational disturbance, displacement, and loss of habitat from environmental degradation than some other whale species. Humpbacks summering in Southeast Alaska have been linked to three wintering areas in Mexico, Hawaii, and Japan.

The recovery plans for the humpback whale identified six, known or potential, categories of human impacts to these species: hunting, entrapment and entanglement in fishing gear, collisions with ships, acoustic disturbance, habitat degradation, and competition for resources with humans.

National Forest management activities which may have an affect on whale habitats or populations, generally fall into the categories of acoustic disturbance and habitat degradation. These management activities include: the development and use of LTFs and their associated camps, the movement of log rafts from LTFs to mills, and the potential development of other docks and associated facilities for mining, recreation, and other Forest uses and activities. Generally, with the development and use of LTFs and other docking facilities for projects, there is an associated increase in recreational boating in the immediate vicinity during the construction and use of the facilities.

Most of the information and data for whales in Southeast Alaska are associated with one species, the humpback whale, because it is the most abundant whale to occur in Southeast Alaska waters. The other seven species of whales are either present only seasonally as they migrate along the outer coastal areas, or are only occasionally found in the inside coastal waters of Southeast Alaska. The following discussion and analysis is primarily based on humpback whales, but is assumed to be applicable to the other species of whales.

Construction and operation of LTFs and other docking facilities are restricted to small, very localized areas of the marine environment. There are three LTFs currently on the Project Area (Elf Point in Thorne Arm, and Shoal Cove and Shelter Cove in Carroll Inlet). An estimated 2 acres of marine-benthic disturbance associated with these existing LTFs could occur as a result of bark deposition. The LTFs were designed to maximize flushing of suspended bark away from the LTF area to the open sea before it can accumulate on the bottom.

There is little potential to directly affect whales with these facilities. During the summer of 1989, there was a report of a humpback whale entangled in some cables from an inactive LTF site on the Stikine Area. This is the only known direct-effect incident related to LTFs.

Two potential indirect effects of LTFs, other docking facilities and associated activities have been identified: (1) effects on whale prey species, and (2) disturbances of whales by boat traffic associated with LTFs.

Effects on Prey

Nemoto (1970) noted that euphausiids and gregarious fish are the primary prey of humpbacks. Thirteen species of fish and 57 species of invertebrates were identified as humpback whale prey in Southeast Alaska. Humpbacks studied in Glacier Bay and Stephens Passage-Frederick Sound were found most frequently in areas of high prey density (Wing and Krieger 1983).

Construction and operation of all LTFs and similar facilities require U.S. Army Corps of Engineer, U.S. Environmental Protection Agency, and State of Alaska tidelands permits. The permitting process provides, that construction and operation maintain water quality in the specific facility locations, and that marine circulation and flushing are maintained. All facilities must be in conformance with permit standards. Although the effects may vary locally, the major effect of leachates (ie. terpene, alpha-conindentric acid, alpha-conindentrin,

hydroxymatairesinol, linoleic acid, and dehydroabietic acid) from bark sloughing off stored log rafts, is upon invertebrates. Crustaceans, shrimp, and crab larvae, seem especially sensitive (Pease 1973, Buchanan and Tate 1976).

Effects from Disturbance

Humpback whale response to nearby boating activity varies from no apparent response to pod dispersal, sounding, breaching, evasive underwater maneuvers, and maintaining distance (Baker and Herman 1983, Baker et. al. 1982). Disturbance by boat activity has been suggested as one of the possible causes of observed changes in whale distribution in Southeast Alaska. Direct pursuit of whales by boats, and frequent changes in boat speed and direction appear to elicit avoidance behaviors more frequently than other types of boat traffic. However, whales may readily habituate to constant and familiar noise (Norris and Reeves 1978). Whales can be commonly found in some areas of Southeast Alaska which have considerable boat traffic. Whether they are habituated to boat traffic has not yet been documented. Adverse effects from current levels of boat traffic have not yet been documented.

Two basic types of boat activity associated with LTFs are log-raft towing and recreational boating by workers. Log-raft towing frequency would vary between camps, seasons, and years, with an average of about once a week during the working season (USDA Forest Service 1989). Tug boats maintain relatively constant speeds and directions during log-raft towing; constant speed and direction elicit less avoidance behavior from whales than other types of boating activity. Log-raft towing routes are generally well established, and adverse effects from log-raft towing have not been documented.

Recreational boating activity by camp residents would vary between seasons, years, and camps of different sizes. This activity would be concentrated near LTF sites, other docking facilities, and camps. It is estimated that most recreational boating would occur within a few miles of the site, a few trips would be made over 10 miles, and activity greater than 30 miles from a site would be negligible. This boating would involve frequent changes in speed and direction and may include some small amount of whale pursuit, if the whales are within sight of the camp or an occupied boat. The effect of such recreational activity on whales would depend on many factors such as size of the bay, depth of the waters in the bay, number of boats, individual behavior responses of the whales, etc. At the present time, there is not a quantifiable way to estimate these possible effects.

The following Forest-wide Standards and Guidelines have been developed for the TLMP (1997) and are incorporated into the Sea Level EIS by reference.

1. Provide for the protection and maintenance of whale habitats.
2. Ensure that Forest Service permitted or approved activities are conducted in a manner consistent with the Marine Mammal Protection Act, the Endangered Species Act, and NMFS regulations for approaching whales, dolphins, and porpoise. "Taking" of whales is prohibited; "taking" includes harassing, pursuing, or attempting any such activity.

No adverse effects on whales from implementation of Forest management activities are anticipated. Indirect effects may be associated with possible increased boating activity, but compliance with Forest Service Standards and Guidelines should partially mitigate any adverse effects on whales resulting from the proposed timber sale alternatives. The Forest Service has no control over the routes taken by tugboats with log rafts, nor does the Forest Service control recreational boating activities.

Steller Sea Lion

The Steller sea lion (northern) ranges from Hokkaido, Japan, through the Kuril Islands and Okhotsk Sea, Aleutian Islands and central Bering Sea, Gulf of Alaska, Southeast Alaska, and south to central California. There is not sufficient information to consider animals in different

geographic regions as separate populations. The centers of abundance and distribution are the Gulf of Alaska and Aleutian Islands, respectively.

In 1990, because of an abrupt population decline observed over the last 31 years (primarily in the former Soviet Union, Gulf of Alaska, and Aleutian Islands), the NMFS listed the Steller sea lion as a threatened species throughout its range. The number of sea lions observed on certain rookeries from Kenai Peninsula to Kiska Island declined by 63 percent since 1985 and by 82 percent since 1960. Significant declines have also occurred on the Kuril Islands. Information on population trends in Southeast Alaska is sketchy, but what data does exist suggests that Southeast populations are stable or perhaps slightly decreasing.

The cause of overall population decline has not been confirmed. However, incidental mortality of sea lions in commercial fishing gear, shooting by fishermen, and reduced prey species due to commercial fishing operations, have probably contributed significantly to declines (Reeves et al. 1992).

When the sea lion was given emergency listing as a threatened species in the Federal Register (April 5, 1990), buffer zones restricting human activities were established around rookeries west of 150 degrees west longitude (does not include Southeast Alaska). The closest Steller sea lion rookery to the Project Area is on Forrester Island, west of Prince of Wales Island. A sea lion haulout used for sunning and resting occurs on Grindall Island, off the south tip of Kasaan Peninsula. It is not designated as critical habitat. A recovery team has prepared a recovery plan (National Marine Fisheries Service 1992).

Important food resources include walleye pollock, salmon, eulachon, and cephalopod mollusks. Steller sea lions forage predominantly in nearshore areas and over the continental shelf.

The NMFS provides a summary of factors affecting the Steller sea lion (Federal Register April 5, 1991). These factors include

- reductions in the availability of food resources, especially pollock, which is the most important prey species for sea lions;
- commercial harvests of sea lion pups;
- harvests for subsistence, public display and scientific research purposes;
- predation by sharks, killer whales, and brown bear;
- disease;
- the inadequacy of existing regulations regarding quotas on the incidental harvesting of sea lions during commercial fishing operations; and
- other natural or human incidences such as shooting adult sea lions at rookeries, haulout sites, and in the water near boats.

None of these factors are regulated by or within the jurisdiction of the Forest Service.

Southeast Alaska populations of Steller sea lions have not declined to the extent that other populations have. Harassment or displacement of sea lions from preferred habitats by human activities such as boating, recreation, aircraft, LTFs, log-raft towing, etc., is a concern with regard to long-term conservation of the sea lion in Southeast Alaska. Forest-wide Standards and Guidelines direct the Forest Service to prevent and/or reduce potential harassment of sea lions and other marine mammals due to activities carried out by or under the jurisdiction of the Forest Service, and these will be incorporated by reference into the Sea Level EIS from the TLMP (1997). These Forest-wide Standards and Guidelines are as follows.

1. Protect Steller sea lion habitats.
2. Ensure that Forest Service permitted or approved activities are conducted in a manner consistent with the requirements, consultations, or advice received from the appropriate regulatory agencies for the Marine Mammal Protection Act, the Endangered Species Act, and NMFS Standards and Guidelines for approaching seals and sea lions. "Taking" of marine mammals is prohibited; "taking" includes harassing, pursuing, or attempting any such activity.
3. Locate facilities, camps, LTFs, campgrounds, and other developments 1 mile from known haulouts, and, farther away, if the development is large.
4. Cooperate with State and other Federal agencies to develop sites and opportunities for the safe viewing and observation of marine mammals by the public. Maintain a public education program explaining Forest management activities related to marine mammals in cooperation with State and other Federal agencies.

No direct effects on sea lions from Forest management activities are anticipated. Indirect effects may be associated with possible increased boating activity, but compliance with these Standards and Guidelines should mitigate any adverse effects on sea lion populations or their habitats for any of the alternatives.

Fish

The presence of Threatened or Endangered Pacific Northwest salmon is not documented for salt waters near the Project Area, but their occurrence is possible. Pink, chum, and coho salmon occur in Project Area fresh waters, however, Chinook and sockeye salmon do not. The application of Forest Standards and Guidelines will be adequate to protect stream fishery resources in the Project Area. Some increased boating activity may occur between Ketchikan and Carroll Inlet and Thorne Arm and logs may be towed to town, but due to infrequent occurrence, this increased activity will not impact these salmon stock. Based on this information, there will be no effects on Snake River sockeye salmon, Snake River spring/summer Chinook salmon, or Snake River fall Chinook salmon.

American Peregrine Falcon

The American peregrine falcon is primarily associated with interior Alaska for breeding, nesting, and rearing of young. The falcon is highly migratory, wintering as far south as northern Argentina and occurring in Southeast Alaska only during migration periods (spring and fall). Reproduction has increased population numbers three-fold in Alaska. Population numbers of the American peregrine falcon are continuing to increase (Ambrose, et al. 1988). In coastal areas of Washington, the primary prey species for peregrine falcons are shorebirds and waterfowl species; passerines were also identified in the diet (Anderson and Debruyne 1979; Anderson et al. 1980).

The TLMP (1997) contains Standards and Guidelines for protecting waterfowl and shorebird habitats. These Standards and Guidelines are incorporated into the Project. Due to the fact that the project will not impact seabird rookeries or waterfowl concentrations, no adverse effects are anticipated from the Project on American peregrine falcons.

Biological Evaluation for Sensitive Species

Trumpeter Swans

The breeding range of the trumpeter swan is concentrated along the Alaska Gulf coast and other wetland areas in central and southern central Alaska (Bellrose 1980). There are no known trumpeter swan nesting pairs on the Ketchikan Area of the Tongass National Forest (West 1991). Therefore, there are no concerns for conflicts with breeding trumpeter swans with this Project.

Trumpeter swans breeding in Alaska, winter along the Pacific Coast from the Alaska Peninsula to the mouth of the Columbia River (Bellrose 1980). Each year many swans pass through the Ketchikan Area in the spring and fall during migration to and from their breeding grounds. Records show swans using Gnat Cove during the winter and during spring and fall migration. There are a few records of swans using Low Lake. Field crews have reported swans occasionally using some of the smaller ponds in the Project Area during migration periods. Swans that spend the winter here usually move to large estuaries such as Carroll River once the weather turns cold.

Swans typically leave for their breeding area by mid-April. Field personnel have not reported swans in the summer. They arrive in the area in mid-October as they are migrating south. Numbers increase as migration continues.

The Project incorporates the Forest-wide Standards and Guidelines for significant waterfowl areas, beach fringe and estuary fringe. Harvest activities in Units 48 and 173 will be limited to April 1 to November 1 to protect wintering trumpeter swans. These Standards and Guidelines will protect swan habitats from disturbance.

Based on the above information, this Project is not likely to adversely affect the overall swan population in Southeast Alaska.

Queen Charlotte Goshawk

The American Ornithologists Union (AOU) recognizes two subspecies of the northern goshawk in North America—*Accipiter gentilis atricapillus* and *A.g. laingi*, the Queen Charlotte goshawk (AOU 1957). Taverner (1940) first described the darker plumaged Queen Charlotte goshawk as a distinct race occurring in the coastal temperate rainforests of the Queen Charlotte Islands and Vancouver Island, British Columbia (B.C.). Webster (1988) found that the Queen Charlotte goshawk occurred from Vancouver Island north to the Taku River near Juneau. The northern goshawk and Queen Charlotte goshawk are identified by the US Fish and Wildlife Service (USFWS) as Species of Concern throughout their ranges.

The goshawk is a wide-ranging forest raptor that generally occurs in low densities, from 2.4 pairs (Central Alaska, McGowan 1975) to 11.0 pairs (Arizona, Crocker-Bedford and Chaney 1988) per 100 square kilometers, although population densities in Southeast Alaska may be much lower (Crocker-Bedford 1992). The most recent estimates of the goshawk population in Southeast Alaska range from 100 to 381 pairs (USDA Forest Service 1991a; Crocker-Bedford 1994), to 100 to 800 pairs (Alaska Interagency Goshawk Committee, Report of June 30, 1994).

Since 1992, more inventory effort has been spent to find goshawks than any other animal (except fishes) in Southeast Alaska. Even so, as of 1995 the cumulative number of known nest areas was only 36 throughout all of southeast Alaska, and only 10 of these exhibited nesting in 1995 (Iverson et al. 1996). Within the Ketchikan Area (southern southeast Alaska) 15 or 16 breeding home ranges were recorded between 1987 and 1997. Of these 15 or 16 home ranges, monitoring located 4 occupied nests in 1997 and 3 in 1998. In addition, 1 or more goshawks—but no occupied nest—were detected in 2 home ranges in 1997, and in 3 in 1998. In short, goshawks are sparse in southeast Alaska including the Ketchikan Area.

Goshawk surveys (see page 5 of this BE) provided no proof of nesting in the Sea Level Assessment Area.

In May 1994 the USFWS received a petition, from the Southwest Center for Biological Diversity and numerous co-petitioners, to list the Queen Charlotte goshawk as endangered pursuant to the Endangered Species Act. In August 1994 the USFWS found that the information presented by the petitioners together with the information in USFWS files was substantial and indicated that listing may be warranted. Therefore, a status review of the species was initiated. After seeking public comments and reviewing available information on the goshawk, a finding was issued in May 1995 that protection under the Endangered Species Act was not warranted for the Queen Charlotte goshawk. Following litigation begun in November 1995, in September 1996 a court directed the USFWS to reconsider their determination. In August 1997 the USFWS again determined that the Queen Charlotte goshawk did not warrant listing. The petitioners again filed suit against the USFWS for failing to list the Queen Charlotte goshawk, and as of December 1998 the issue is still in court.

The primary concern for goshawk-population viability is habitat loss due to timber harvest. Study within the range of the Queen Charlotte goshawk demonstrated a significantly greater frequency of relocations of radio-tagged goshawks in medium-volume and high-volume mature and old-growth forest than the proportions of such habitat within the individual home ranges of the birds under study (Iverson et al. 1996). By contrast, clearcuts were the most avoided of all habitats (Iverson et al. 1996). These radio-telemetry results excluded relocations in the vicinity of nests. Habitat comparisons demonstrated that the vicinities of nests included significantly more forest, and significantly less nonforest, than randomly chosen plots (Iverson et al. 1996).

Reynolds (1983) reported home ranges of *A. g. atricapillus* to be 2,000 to 3,200 hectares (4,942 to 7,907 acres). In southeast Alaska during the breeding season, the mean (and maximum) use area of radioed goshawks was 35,000 (214,000 maximum) acres among 17 adult females and 17,000 (48,000 maximum) acres among 16 adult males (Iverson et al. 1996). During the nonbreeding season, the mean (and maximum) use area was 111,000 (452,000 maximum) acres among 16 adult females and 108,000 (562,000 maximum) acres among 15 adult males (Iverson et al. 1996). Goshawks are supported (fed in substantial amounts) by only a portion of the habitats present, and typically most of a home range (where trees are small or sparse) provides little or no sustenance to individuals (Crocker-Bedford 1998). Home ranges appear to be larger (Kenward 1982) and more widely spaced in landscapes where less area exists in stands useful for foraging (Crocker-Bedford 1998). Breeding-pair density appears to depend upon the amount of habitat where suitable prey are more abundant and accessible (proper forest structure) where the chance of prey capture in the habitat is worth the time and energy expended (Crocker-Bedford 1998).

The value of clearcut stands for goshawk nesting or foraging is less than any other habitat in southeast Alaska, and having large portions of early seral forest in a landscape likely reduces cumulative landscape habitat quality (Iverson et al. 1996). Harvesting of units in the Sea Level Project Area would increase the amount of early seral forest, thus reducing the cumulative landscape-habitat quality.

Goshawk sensitivity to timber harvest resulted in management recommendations to protect nest-site integrity (USDA Forest Service 1990, USDA Forest Service 1991a, USDA Forest Service Alaska Region 1992 and 1994). Other management recommendations recognized the importance of the foraging area within the post-fledging area (Kennedy 1989, Crocker-Bedford 1990, USDA Forest Service 1991a, and USDA Forest Service Alaska Region 1992 and 1994). There is now widespread recognition of the importance of most foraging habitat, including areas far from the nesting site (Reynolds 1989, USDA Forest Service 1990, Crocker-Bedford 1990, 1994, 1995 and 1998, Marshall 1992, Reynolds et al. 1991, USDA Forest Service Alaska Region 1994, Iverson et al. 1996).

No known goshawk territories are located within the Project Area (see page 5 of this BE). Any pairs of goshawks not discovered prior to timber harvest may be affected if the harvest units correspond to key stands of habitat. Any goshawk nest found prior to harvest will be protected utilizing the TLMP Standard and Guideline for goshawk nest buffers. Although the buffer is likely adequate if only 3 percent of the old growth of a drainage is harvested in any 1 decade (Iverson et al. 1996), the nest site will likely not be occupied long after timber harvesting, if large amounts of harvest occur in the surrounding watersheds (Crocker-Bedford 1990, 1991, 1994 and 1995; Patla 1991, Reynold et al. 1991, Marshall 1992, Woodbridge and Detrich 1994, Hayward et al. 1995).

It is our determination that the Project may affect individual goshawks if timber harvest activities or roads correspond with goshawk nesting stands or key foraging stands. This determination is based on the following factors:

- Goshawks select for (and apparently depend on) medium-volume and high-volume mature and old-growth-forest habitat.
- Goshawks are sensitive to timber harvest, and the habitat value of clearcut stands is very low.
- The Project Area has received a substantial amount of prior timber harvest.
- Harvesting of the units in the Project would increase the amount of early seral forest, thus reducing the cumulative landscape habitat quality.

Mitigation

All units laid out for the Project will follow the TLMP Forest-wide Standards and Guidelines. The Project will also follow the TLMP strategy for maintaining viable wildlife populations. If the TLMP Final EIS (including Appendix N) and ROD are correct in their analyses that the TLMP land-use allocations Standards and Guidelines are adequate to maintain a viable population of goshawks in a well-distributed manner, then the Sea Level Timber Project will also be consistent with the Forest Service viability regulation and Sensitive Species policy. Even though the cumulative effects of timber harvests in southeast Alaska are likely to cause individual home ranges and home-range spacing to expand—leading to a reduction in breeding density—it is assumed that consistency with the TLMP will achieve the Forest Service viability requirement.

Osprey

There are no known osprey nest locations on the Ketchikan Ranger District. Nest trees are usually broken-top spruce, either live or dead, and western hemlock snags. Osprey are usually found near water since their diet consists mainly of fish.

Osprey have been known to stop at some lakes on the District during migration. Small lakes in the Project Area provide an opportunity for migrating osprey to rest and feed. No nests have been recorded near the Project. No osprey have been seen during the breeding season within the Project Area, despite the fact that osprey tend to be more apparent than most species.

The Sea Level Project is not expected to affect nesting osprey because no known nest site occurs in the Project Area, and availability of nesting and foraging areas in Southeast Alaska do not appear to be a factor limiting population growth. In addition, minimal or no effect on osprey habitat is expected from Project activities, because uncut buffers will be maintained near streams, lakes, and coastal areas. If nests are discovered in the Project Area, Standards and Guidelines outlined in the Forest Plan will be followed. Based on this information, the Project is not expected to adversely affect osprey.

Peale's Peregrine Falcon

Peale's subspecies of the peregrine falcon (*Falco peregrinus pealei*) nests on the outer islands and on the west coast of Prince of Wales Island. This species is not listed as endangered or threatened, but is covered by a provision of the "similarity of appearance" which broadens the scope of protection for all peregrine falcons.

The nest distribution of this subspecies is closely associated with large seabird colonies located on the outer coasts or nearby islands (USDA Forest Service 1991b), and seabirds are believed to be the major prey of the falcon. No seabird colonies or potential nesting cliffs exist near the Project Area. Based on this information, the Project will not affect Peale's peregrine falcons or their habitat.

Goose-grass Sedge

This sedge is known to occur in the coastal mountains of Alaska and B.C. and in the Rocky Mountains from Jasper, B.C., south to Glacier National Park, Montana. Its range in Alaska is limited to the subalpine of coastal South-central and Southeast Alaska and the Aleutian Islands. Since this plant is expected to exist in subalpine habitats, no effects are anticipated from this Project.

Edible Thistle

This regionally endemic thistle is distributed primarily along coastal Oregon, Washington, and British Columbia and barely reaches southern most Southeast Alaska. It is known to exist in two locations in Misty Fjords National Monument (TLMP 1997). It is unknown whether this species occurs in the Project Area. Its habitat is characterized as wet meadows and open woods along glacial streams.

Since the harvest activities generally avoid wet meadows and stream margins where this species would be expected to be found, no direct effects are anticipated from the Project even if the species were to occur in the Project Area.

Davy Mannagrass

This grass species is distributed from Southeast Alaska to central California. Its distribution in Alaska is limited to central and southern Southeast Alaska. It is known to occur in Southeast Alaska in only two documented locations: near Wrangell and on Prince of Wales Island; however, it is easily overlooked and likely to be more widespread in Southeast Alaska (USDA Forest Service 1994).

No known populations of this species occur in the Project Area. It grows in shallow fresh water and along stream and lake margins. The TLMP Standards and Guidelines (TLMP 1997) protects most of its habitat from disturbance, though smaller streams may not receive buffers in the Project. Therefore timber-harvest activities may affect individuals, but are not likely to adversely affect population viability.

Wright Filmy Fern

This fern species occurs in coastal areas of Southeast Alaska and British Columbia. Three sightings have been documented in Alaska and are limited to Biorka and Mitkof Islands (USDA Forest Service 1994). It is unknown if the species occurs in the Project Area. This species appears to prefer humid shaded boulders, cliffs, tree trunks, and damp woods. In Alaska, it has been found in small populations on the base of trees and rock outcrops in damp woods.

No observations of this species have been documented for the Project Area. Undetected individuals could be affected. Because so little is known about the distribution of this plant, it is unknown whether affects to undetected individuals in the Project Area will adversely affect population viability; hence, the determination is "may effect".

Truncate Quillwort

This rooted-aquatic species is known from a few widely isolated populations on Vancouver Island and South-central Alaska on the Copper River Delta (USDA Forest Service 1994). It is unknown whether this species occurs in the Project Area. Truncate quillwort grows immersed in shallow water of lakes and ponds (TLMP 1997).

Due to its rooted-aquatic nature, this species does not occur in forested areas where harvest and roading activities would be concentrated. Even if the species does exist in the Project

Area, stream and lakeshore buffers, as well as wetland protections, should provide adequate protection for this species. Therefore, no direct effects are anticipated from this project.

Calder's Lovage

This plant species occurs in B.C., Southeast Alaska, and South-central Alaska. Documented occurrences in Alaska are limited to two disparate areas on Kodiak Island and Dall Island (just west of Prince of Wales Island) in Pleistocene refugia on limestone substrate (USDA Forest Service 1994). It is unknown if this species occurs in the Project Area. Calder's lovage occurs on open boggy or rocky slopes, and edges of coniferous forests. In Alaska it is known from subalpine meadow habitats and edges of mixed-conifer forest.

No observations of this species have been documented in the Project Area, though undetected plants could potentially be affected by harvest activities at forest edges. Since most individuals are expected to occur in or near wetland habitats, timber-harvest activities are not likely to affect population viability.

Choris Bog Orchid

In Alaska, this bog orchid species is limited to the Aleutian Islands and southern coastal areas (USDA Forest Service 1994). Recent botanical surveys on Revilla Island have revealed a number of populations of this species. With the increasing number of observations, it seems that this species is not as rare as previously thought.

Botanical surveys discovered populations of the plant in Units 2, 80, 126, and 134, and along road number 8341160. Units 2 and 80 avoid the populations found there. The populations in Unit 126 are along the boundary. If the unit boundary is adjusted, there will be no effects on the population. Unit 126 is included in Alternatives 2 and 3.

This species is found in three locations within Unit 134. One population is in the center of the unit, making protection difficult if the unit is harvested. Given the high incidence of this species in portions of the unit that were surveyed, more pockets may occur in other parts of the unit. This unit is included in Alternatives 2 and 3.

Given the frequency of occurrence of this species in surveyed portions of the Project Area, more populations may occur in those areas not surveyed. Therefore, the project may affect choris bog orchids. However, due to the number of known populations, the project is not likely to cause a trend towards listing, nor disrupt the general distribution of the species.

Bog Orchid

This species of bog orchid is limited to a small geographic range in southern most Southeast Alaska and adjacent B.C. (USDA Forest Service 1994). Two documented sightings have been made in Alaska near Pearse Canal and on Dall Island. It is unknown if this species occurs in the Project Area. This plant occurs in wet open-meadow habitat. No observation of this species was made during field reconnaissance. This species is not known to occur in forested areas. Therefore, there are no effects anticipated from harvest activities.

Loose-flowered Bluegrass

The distribution of this grass species is scattered between Southeast Alaska and Oregon. Seven sightings have been documented in Southeast Alaska near Hoonah, Sandborn Canal at Port Houghton, and Admiralty Island (USDA Forest Service 1994). It is not known if this species occurs in the Project Area. Loose-flowered bluegrass is associated with moist, open lowland woods and open-forest meadows. Undetected specimens could potentially be affected by harvest activities in open lowland woods and open-forest meadows. Therefore, this Project may adversely affect loose-flowered bluegrass, but is not likely to cause a trend towards listing as Threatened or Endangered.

Straight-beak Buttercup

This species of buttercup is distributed from coastal southern Southeast Alaska to adjacent B.C. and Vancouver Island (USDA Forest Service 1994). The closest documented occurrences to the Project Area include Loring and Yes Bay. It is unknown if the species occurs in the Project Area. It occurs in moist, open-lowland meadows, beach fringe and other moist, open habitats. Even if this species does occur in the Project Area, direct effects due to harvest activities are not anticipated to be significant as moist, open habitats are generally avoided for timber harvest. Therefore, this Project is not likely to adversely affect the straight-beak buttercup.

**Queen Charlotte
Butterweed**

This species of butterweed is limited to the Queen Charlotte Islands of B.C. and to disjunct populations in Southeast Alaska and northwestern Vancouver Island (USDA Forest Service 1994). Five occurrences have been documented in Alaska on Prince of Wales, Coronation, and Dall Islands. Queen Charlotte butterweed occurs (USDA Forest Service 1994) in

- shady wet areas and bogs of montane to alpine habitats,
- open rocky or boggy slopes, and
- open rocky heath or grass communities.

It is not known if this species occurs in the Project Area. No observations of this species were made during field reconnaissance and no sightings have been documented for the Project Area. Even if this species does occur in the Project Area, direct effects due to harvest activities are not anticipated to be significant as moist, open habitats are generally avoided for timber harvest. Therefore, this Project is not likely to adversely affect the Queen Charlotte butterweed.

Assessment of Other Species of Concern

**Alexander
Archipelago Wolf**

The Alexander Archipelago wolf is a small subspecies of the gray wolf (Goldman 1937, Pedersen 1982), similar in appearance to the Vancouver Island wolf (*C.l. crassodon*). Kirchhoff (1992) described the Alexander Archipelago wolf as occurring on the Southeast Alaska mainland and all large islands in Southeast Alaska except for Admiralty, Baranof, and Chichagof.

On December 17, 1993, the USFWS received a petition from the Biodiversity Legal Foundation to list the Alexander Archipelago wolf of Southeast Alaska as threatened pursuant to the Endangered Species Act. On May 13, 1994, the USFWS found that the petitioners had presented substantial information indicating that listing may be warranted and a status review of the species was initiated. On February 16, 1995, the USFWS determined that listing was not warranted. In October 1996 the courts directed the USFWS to reconsider their determination. In August 1997, the USFWS again determined that the wolf did not warrant listing.

The primary food of most Southeast Alaska wolves is deer (Wood 1990, Person et al. 1996). Beaver, mountain goat and moose are primary prey in some mainland areas, and spawning salmon are fed on when available (Wood 1990). Alexander Archipelago wolf abundance is likely linked to deer abundance and availability, particularly in southern island habitats (Suring et al. 1988, Wood 1990, Person et al. 1996).

Based on field observations, discussions with trappers, and anecdotal information, the wolf population in Southeast Alaska was estimated to be 635 to 690 individuals, distributed in 85 packs (Morgan 1990). However, Person et al. (1996) estimates that the current Southeast population at about 908 individuals with about 20 percent of them occurring in Game Management Unit (GMU) 1A (Revilla Island and surrounding mainland). The Sea Level Project contains portions of Wildlife Analysis Areas (WAA) 405 and 406, which are included in GMU 1A.

Many studies have shown that wolf abundance may be inversely correlated with road density (Theil 1985, Jensen et al. 1986, Mech et al. 1988, Fuller 1989, Person et al. 1996). Person et al. (1996) noted that wolf harvest rates increased sharply in Wildlife Analysis Areas on Prince of Wales Island where road density exceeded 0.49 miles per square mile. The TLMP (1997) Standards and Guidelines recommend maintaining open-road densities below 0.7 to 1.0 miles per square mile to help protect wolf populations from over harvest. This recommendation is based on the work in Person et al. (1996). The primary threat of high road densities is the

increased access for humans who kill wolves by shooting, snaring or trapping (Van Ballenberghe et al. 1975, Mech 1977).

Effects of Proposed Action on Population or Habitat

Habitat Capability Model

Implementation of the Sea Level Alternative 2 (maximum timber harvest) will result in a reduction in deer-habitat capability. Wolf-habitat capability is predicted to be reduced in proportion to the reduction in deer-habitat capability. The wolf model is based on the deer and goat models since moose are not present within the Project Area. Wolf habitat capability will be reduced from existing conditions by the percentages shown in the table below.

Table Assessment and Evaluation-4

Percent Decrease in Habitat Capability for Wolf from Current Conditions

	Alternative			
	1	2	5	7
Project Area	0.0	5.3	2.8	4.0

Source: Burns 1999, GIS.

Past activities may have affected wolves in the Project Area. Based on application of the Tongass Habitat Capability Model for the gray wolf, habitat capability declined about 33 percent in the Project Area between prelogging and existing conditions. When the Project is combined with these past harvest activities, habitat-capability reduction from preharvest conditions (1954) are as shown in the table below.

Table Assessment and Evaluation-5

Percent Decrease in Habitat Capability for Wolf from 1954 Conditions

	Alternative			
	1	2	5	7
Project Area	33.0	36.6	34.9	35.7

Source: Burns 1998.

Person et al. (1996) estimates approximately 18 deer per square mile are needed to sustain viable wolf populations. Falling below this level, decreases the probability of maintaining viable populations.

Applying this density to the Project Area, about 2,574 deer would be needed to support wolf populations. Deer-habitat capability is currently about 3,794 deer (27 deer per square mile). This is above what Person et al. (1996) recommends. Alternatives 2 and 7 reduce the deer density to 25 deer per square mile in the Project Area. Alternative 1 maintains the deer density at 27 deer per square mile. Alternative 5 reduces the deer density to 26 deer per square mile.

Deer and wolf habitat capability is higher than that shown in the Sea Level Draft EIS. There are two main reasons for this change. First, in the Draft EIS we used the Deer Habitat Capability Model from the Draft TLMP Revision. In the Final EIS we used the Deer Habitat Capability Model from the Final TLMP Revision (1997). The Final TLMP model assigned higher Habitat Suitability Index (HSI) values to old-growth forests and lower values to clearcut areas. This was done to more adequately reflect deer density related to HSI values. Secondly, In the Draft EIS, the Habitat Suitability scores were transformed into "numbers" of deer (for planning purposes only) by multiplying the habitat scores by a maximum long-term carrying capacity of 100 deer per square mile for an HSI score of 1.0. In the Sea Level Final EIS we used 125 deer per square mile as recommended by the interagency deer-habitat-modeling workshop (DeGayner 1996) and the TLMP (1997). These two factors increased the model output for the Sea Level Final EIS.

Deer Winter Habitat

This section discusses the relationship between deer habitat, deer-population levels, and wolf-population levels. Deer are the primary prey species for wolves in WAAs 405 and 406.

Habitat most valuable to deer during the winter period is characterized by low-elevation mature forest on south-facing slopes. We conducted an analysis on the amount of low-elevation (<800 feet) productive (>8,000 MBF/acre) old-growth forest on south-facing slopes (135 degrees to 225 degrees). There are approximately 6,858 acres meeting these criteria within the Project Area. This is about 83 percent of that which existed prior to extensive logging. Alternative 2 would decrease this valuable deer habitat to about 71 percent of historical (prior to 1954) conditions. Alternatives 5 and 7 would reduce this habitat to about 79 and 75 percent of historical levels, respectively.

The WAA 405 contains about 4,081 acres of mature forest below 800 feet in elevation on south-facing slopes. This is about 93 percent of historical levels. Alternative 2 would decrease this valuable deer habitat to about 83 percent of historical (prior to 1954) conditions. Alternatives 5 and 7 would reduce this habitat to about 92 and 89 percent of historical levels, respectively.

The WAA 406 contains about 6,657 acres that meet these criteria, which is about 83 percent of historical conditions. Alternative 2 would decrease this valuable deer habitat to about 77 percent of historical (prior to 1954) conditions. Alternatives 5 and 7 would reduce this habitat to about 80 and 78 percent of historical levels, respectively.

The stability of deer and wolf populations depends on several factors, including predation by wolves, hunters, and other species. Some of the most important determinants are growth rate and stochastic events such as severe winters. Severe winters or reductions in quality deer habitat can result in widely fluctuating wolf and deer populations. If alternate prey is not available or if the reproductive potential of the deer population is reduced because of habitat loss, then recovery from a population crash could take a long time (Person et al. 1996).

Roads

Road construction associated with logging activities has increased road densities. Approximately 48 miles of road exist in WAA 405 within 71.69 square miles (GIS database 1997). Open-road density in WAA 405 under existing conditions is approximately 0.67 miles per square mile.

Approximately 116 miles of open road exist in WAA 406 within 199.23 square miles (GIS database 1997). Open-road density in WAA 406 under existing conditions is approximately 0.58 miles per square mile.

None of the roads are connected to the Ketchikan Road System. The road system receives relatively low use by trappers and hunters. Approximately 85 miles of existing roads would

be closed within the Project Area under all the action alternatives. All new roads would be closed following Project completion except for 10 miles of new road at Elf Point (WAA 405).

Table Assessment and Evaluation-6
Open Road Density for WAAs 405 and 406, by Alternative

WAA	Alternative			
	1	2	5	7
405	0.67	0.57	0.42	0.57
406	0.58	0.24	0.24	0.24

Source: Burns 1998.

The table above shows the resulting open-road densities for WAAs 405 and 406 for each alternative. All alternatives in the Project maintain road densities below 0.7 miles per square mile as suggested by the TLMP (1997). Closures would consist of physical barriers (tank traps, boulders, etc.) or gated access for administrative purposes, depending on expected future use of the road. The figures in Table Assessment and Evaluation-6 reflect these proposed closures.

A road connection between Ketchikan and Shelter Cove (WAA 406) is being considered as a separate project. This would allow easy access to the Shelter Cove area by Ketchikan residents. The increased access could increase deer-harvest rates, which could indirectly affect wolf populations by reducing their prey base. The road connection could directly affect wolves through increased hunting and trapping of wolves. We are unable to quantify the effects this would have on wolf populations. Cumulative effects could be substantial. To mitigate some of the effects, all existing roads except the mainline roads in the Shelter Cove area would be blocked following Project completion. All newly constructed roads would also be blocked. These barriers may not be effective since off-road vehicles may be able to pass some of the road blocks.

Summary

Because of the small reduction that is estimated in deer- and wolf-habitat capability, the small amount of high-value deer habitat planned for harvest, and the planned blocking of new roads, the direct effects from the Project are not expected to be significant. The TLMP viable-population strategy will be maintained through implementation of all alternatives. This strategy will maintain viable populations of wolves throughout the Project Area.

Most effects on wolves in WAAs 405 and 406 are from past activities. Cumulative effects have reduced deer-habitat capability, especially the amount of high-value deer habitat. This suggests that cumulative impacts of past activities may have reduced wolf density and use of the Sea Level Assessment Area, and that the Project could further reduce wolf density and use in the Area. However, the Project will follow the TLMP strategy for maintaining viable wildlife populations. Old-growth reserves and roadless areas in adjacent Misty Fiords National Monument will serve to maintain wolf-population viability. Furthermore, 5 miles of road potentially connected to the Ketchikan road system will be closed. Open-road density will be below 0.7 miles per square mile as recommended by the TLMP (1997). With these strategies and conditions, the Project is not expected to threaten wolf-population viability nor its distribution across Revilla Island.

**Keen's Myotis
(Keen's long-eared
bat)**

Records suggest that the range of Keen's myotis is restricted to Pacific coastal forests from western Washington to Southeast Alaska (Nagorsen and Brigham 1993 and van Zyll de Jong and Nagorsen 1994 as cited by Parker 1996). Three specimens have been collected at Wrangell, northern Prince of Wales Island, and Hoonah (Parker 1996). Parker (1996) suggests these bats are year-round residents. Keen's myotis apparently roosts in snags, hollow trees, rock crevices and caves (van Zyll de Jong 1985 and cited in Parker 1996).

Harvest units could remove potential habitat in the form of snags and hollow trees. The amount of habitat removed is not expected to be sufficient to cause a threat to population viability. On the other hand, the few specimens known from Southeast Alaska imply that the Keen's myotis population is spotty. If so, and if only a couple of roosts and nurseries exist in the Project Area, and if timber harvest chances to coincide with these rare features, the population distribution may be affected. Hence, the summary determination is "may effect".

Marbled Murrelet

Murrelets are commonly observed in the saltwater in Thorne Arm and Carroll Inlet. Survey methods were such that many undiscovered nests probably exist on land in the Area. It is unknown how many occur in the Project Area. No nests have been found in the Project Area. Since all inland forests are less than 25 miles from salt water, all could be potential marbled murrelet nesting habitat.

Marbled murrelets occasionally nest on the ground; however, they usually nest in old trees which range, in diameter at breast height, from 35 to 210 inches. Nests are normally located high above the ground with good overhead protection (USFWS 1992). Murrelets often nest in thick moss on branches of old-growth coniferous trees in Southeast Alaska (Armstrong 1990).

Ralph et al. (1995) estimated the marbled murrelet population in Southeast Alaska at 96,200. However, a much more thorough study (Agler et al. 1995) determined the early-summer, on-water population in Southeast Alaska to be 434,000 (plus or minus 167,000). Marbled murrelet populations appear to be declining at about 5 percent per year (Ralph et al. 1995).

In areas with timber harvesting, the amount of nesting habitat for marbled murrelets is reduced. Murrelets would not likely re-occupy a clearcut area until the regenerating forest attained a suitable degree of complexity and individual trees attained a suitable size, perhaps no sooner than 150 years (DeGrange 1996). It is not known what the actual effects of timber harvest will be, other than the total amount of habitat will be reduced. Fragmentation or increased edge effects may also reduce habitat capability for marbled murrelets.

All action alternatives will harvest between 1 and 5 percent of the old-growth forest stands which may be capable of providing nesting habitat for marbled murrelets within the Sea Level Assessment Area. This may affect individuals if their nests occur in the proposed units. Previously, 15 percent of the original old-growth forests within the Project Area have already been harvested. The loss in nesting habitat may have no effect if murrelets shift their nesting locations and are limited by food at sea and not nest sites. On the other hand, if traditional nest sites are important, then their loss may reduce the murrelet breeding population.

In any case, because of the many large unroaded blocks of habitat that exist in and adjacent to the Project Area (Misty Fiords National Monument = 2,136,000 acres; Cleveland Peninsula = 250,000+ acres; Orchard Lake = 10,000 acres; and the Naha River area = 20,000 acres), the regional population of marbled murrelets is anticipated to remain large. Even within the Sea Level Assessment Area, at least 83 percent of the original old-growth forest would remain after the Project. Therefore, the reduction in nesting habitat is small in relation to the large murrelet population.

In conclusion, although the Project may affect individual murrelets, it will have no effect on population viability or distribution.

Any nests that happen to be located during unit layout will be protected from timber harvest and blowdown using the management guidelines. The TLMP (1997) uses a 600-foot buffer around each nest. Disturbance activities would be minimized during the nesting season and the buffer

Harlequin Duck

zone would be maintained and monitored for at least two nesting seasons following discovery. If a nest remains inactive for more than 2 years, the buffer protection may be removed.

Harlequin ducks nest along inland rivers and streams. The nest is usually 6 feet (but up to 60 feet) from water (DeGraff et al. 1991). No nesting harlequin ducks have been recorded in the Project Area, although the potential does exist.

The Project is not expected to significantly affect harlequin ducks because units are located away from riparian habitat. Road stream crossings could effect a few individual harlequin ducks, but effects are also expected to be minimal since few roads cross major streams which provide harlequin-duck nesting habitat. One possible exception is Buckhorn Creek.

Harlequin ducks are not considered an interior-forest species. Since they are associated more with rivers and streams which are protected by stream-buffer Standards and Guidelines, it is determined that the Project may effect individuals, but is not likely to adversely affect population viability for Southeast Alaska.

Olive-Sided Flycatcher

Olive-sided flycatchers are neotropical migratory birds that winter south of the United States (Suring and Pardew 1993). Armstrong (1990) lists them as uncommon in Southeast Alaska in spring, summer, and fall (nesting season). Olive-sided flycatchers occur in coniferous forests and forest edges and they nest in conifers (Armstrong 1990).

Field crews reported two olive-sided flycatcher observations. Both were singing males and both were detected at the edge of an old clearcut. One was at the edge of an old clearcut east of Unit 70. The other was at the north end of an old clearcut near Unit 90. Survey methods were limited to incidental observations.

Olive-sided flycatchers may occur in the Project Area along some of the forest edges in the spring, summer, and fall. Olive-sided flycatchers use forest edges and are not considered an old-growth dependant species. Habitat alteration will be insignificant and will not cause a loss of population viability. Based on this information, it is determined that this Project will not affect olive-sided flycatchers or their habitat.

Band-Tailed Pigeon

Biologists observed three to four pairs of band-tailed pigeons on 6/10/98 during an interagency field review. They were seen along the road on the ridge between Calamity Creek and Licking Creek. The pairs were preening each other and showing signs of courtship behavior. This observation suggests the possibility of nesting band-tailed pigeons here and elsewhere within the Project Area.

Band-tailed pigeons occur in low numbers in Southeast Alaska. Their typical range is coastal British Columbia southward along the coast to Mexico and in the mountain forests of Utah, Colorado, Arizona, New Mexico and Texas (Jarvis and Passmore 1992, Johnsgard 1975). Armstrong (1990) lists them as rare in Southeast Alaska. They have been occasionally reported at other areas on the District, including Traitors Cove and Herring bay.

Populations in Washington and Oregon have declined significantly over the last 30 years (Jarvis and Passmore 1992). There is insufficient information to speculate about potential causes for the population decline. Food availability and mineral deposits seem to be the important to nesting locations in Oregon and other parts of their range.

Band-tailed pigeons are also very social birds. The flock is the social unit for these birds. They often nest in close association with the flock and maintain contact with the flock during nesting (Johnsgard 1975).

Due to their gregarious nature and the availability of habitat in the Project Area, this Project may affect band-tailed pigeons. If birds are nesting in proposed units and roads, these local flocks would be adversely affected. Units and roads will alter the habitat and possibly reduce local populations. The relatively infrequent occurrence of these birds makes local populations more susceptible to adverse effects.

Columbia Spotted Frog

The spotted frog occurs in or near fresh water and is believed to range, in Southeast Alaska, south from the Taku River in Juneau, other transboundary rivers, and on some islands near the mainland of Southeast Alaska (Lindell and Grossman 1998). The presence of spotted frogs on Revilla Island has not been confirmed. The Project Area contains some small muskeg ponds and lakes that could provide habitat for spotted frogs.

Amphibian surveys have been completed within the Project Area (See Amphibian Survey section). No spotted frog was found during the surveys.

Riparian habitats along all lakes, rivers, and streams on the Forest will be managed according to the Riparian and Lake Standards and Guidelines in the TLMP (1997). Harvest units are located away from potential habitat. Based on this information, it is determined that this project will have no affect on spotted frogs or their habitat.

Ascending Moonwort Fern

This plant species occurs widely scattered in grassy fields from 0 to 2,500 meters elevation in B.C., Ontario, Yukon, Alaska, California, Montana, Nevada, Oregon, and Wyoming (Wagner 1993). It is unknown if this species occurs in the Project Area. Potential habitat occurs in the Area. Undetected specimens could potentially be affected by harvest activities, but effects are not likely to cause a trend toward listing the species.

Super-Round-Wedge Moonwort Fern

We have insufficient information on the distribution, taxonomy, and habitat requirements of this species to adequately evaluate effects from this Project. It is unknown whether this species or potential habitat occurs within the Project Area.

Willow

This subspecies of willow (*Salix reticulata ssp. glabellcarpa*) occurs as a prostrate shrub on alpine cliffs and ledges above 2,400 feet elevation. The subspecies is limited to the Queen Charlotte Islands (Argus 1965) and one documented occurrence on an alpine peak near Juneau, Alaska. It is unlikely this species will be affected by harvest activities since activities will not occur near alpine. Based on this information, no effects are anticipated on this willow subspecies from this Project.

Broad-Leaf Twayblade

This is a rare orchid in Alaska, ranked by the Alaska Natural Heritage Program (ANHP) as "globally secure" (G5), but "critically imperiled in the State" (S1). Prior to sightings on the Sea Level Timber Sale Assessment Area, the only documented Alaskan sightings were in the Aleutian Islands. It is also known to occur southward in British Columbia. Broad-leaved twayblade is associated with small wet, forb-rich inclusions within productive forest stands. In the Project Area it occurs in Units 67 and 228, and near Unit 133. Because of its extreme rarity in Alaska, and the fact that it has been found nowhere else on the Tongass National Forest, planned harvest activities in these units may effect the viability and distribution of this species.

Mitigation

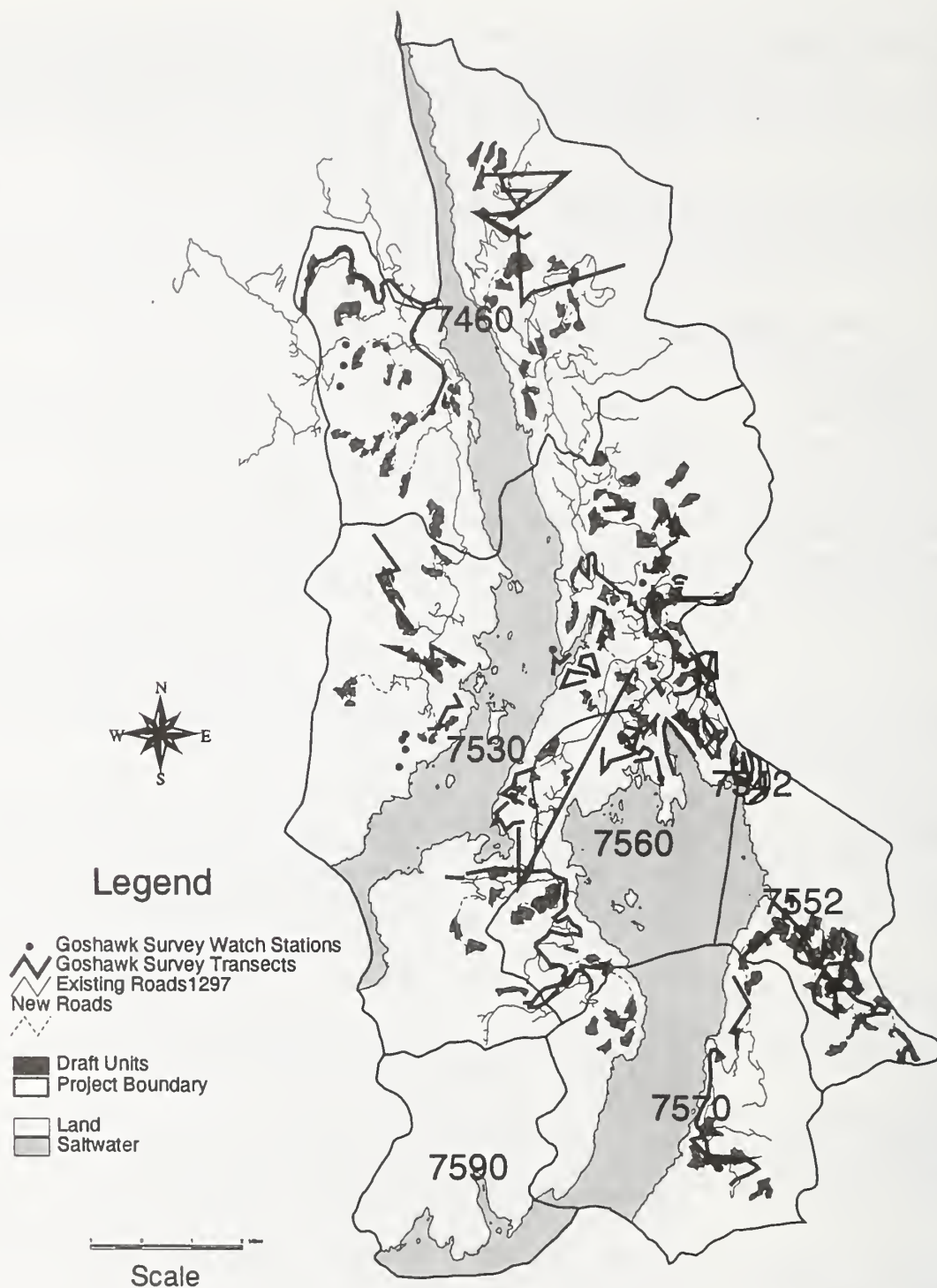
To address this "may effect" situation, boundaries in Units 67, 133 and 228 should be moved to protect the known individuals of broad-leaf twayblade.

Round-Leaf Bog Orchid

This rare plant is ranked by ANHP as "globally secure" (G5), but "critically imperiled in the State" (S1). The species occurs in forest understories in southern Southeast Alaska. This plant was found in one location along the proposed spur road flag line into Unit 10. The position of this proposed road has since been moved, and the population will not be affected. It is not known whether other populations in the Project Area have gone undetected, therefore this Project may affect individuals, but is not expected to adversely affect population viability.

Pacific Silver Fir

This forest tree species reaches its northern range limit in very southern southeast Alaska in the Project Area. Its rank according to ANHP, is "apparently globally secure" (G4), and "rare or uncommon in the State" (S3). Due to the limited extent of this tree species in the State, a substantial portion of its known populations should be retained in the Forest. Knowledge of the distribution of this tree in southern SE Alaska, outside of timber planning areas is limited. Timber-harvest activities as planned will affect individuals, but is not likely to cause a trend toward listing as a Threatened or Endangered Species.



Map 1. Goshawk Surveys

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C Appendix



END APPENDIX C

Appendix D

Road Maintenance Levels

Traffic Service Levels

Road Management Objectives

Road Maintenance Levels

Maintenance levels define the level of service provided by, and maintenance required for, a specific road. Maintenance levels must be consistent with road management objectives and maintenance criteria.

Factors

Consider the following factors when selecting maintenance levels

- resource program needs, environmental and resource protection requirements, visual quality objectives, and recreation-opportunity-spectrum classes,
- road investment protection requirements,
- service life and current operational status,
- user safety,
- volume, type, class, and composition of traffic,
- surface type,
- travel speed,
- user comfort and convenience,
- functional classification, and
- traffic service level.

Roads may be currently maintained at one level and planned to be maintained at a different level at some future date. The operational maintenance level is the current maintenance level assigned to a road, considering today's needs, road condition, budget constraints, and environmental concerns; in other words, it defines the level to which the road is currently being maintained. The objective maintenance level is the maintenance level to be assigned at a future date, considering future road management objectives, traffic needs, budget constraints, and environmental concerns. The objective maintenance level may be the same as, higher, or lower than, the operational maintenance level. The transition from operational maintenance level to objective maintenance level may depend on reconstruction or disinvestment.

Maintenance Level Descriptions

Maintenance levels 1 through 5 (operational and objective) are described in the following paragraphs.

Roads assigned to maintenance levels 2 through 5 are either constant-service roads or intermittent-service roads during the time they are open to traffic. See Table Appendix D-1 for the relationship between maintenance levels.

Level 1

Level 1 is assigned to intermittent-service roads during the time they are closed to vehicular traffic. The closure period must exceed 1 year. Basic custodial maintenance is performed to keep damage to adjacent resources to an acceptable level and facilitate future management activities. Emphasis is normally given to maintaining drainage facilities and runoff patterns. Planned road deterioration may occur at this level. Appropriate traffic management strategies are "prohibit" and "eliminate."

D Appendix

While being maintained at level 1, roads are closed to vehicular traffic, but may be open and suitable for nonmotorized uses. Roads receiving level 1 maintenance may be of any type, class, or construction standard, and may previously have been any other maintenance level.

Level 2

Level 2 is assigned to roads open for use by high-clearance vehicles. Passenger-car traffic is not a consideration. Traffic is normally minor, usually consisting of (or a combination of) administrative, permitted, dispersed recreation, or other specialized uses. Log haul may occur at this level. Appropriate traffic management strategies are either to (1) discourage or prohibit passenger cars or (2) accept or discourage high-clearance vehicles.

Level 3

Assigned to roads open and maintained for travel by a prudent driver in a standard passenger car. User comfort and convenience are not considered priorities.

Roads in this maintenance level are typically low speed, single lane with turnouts and spot surfacing. Some roads may be fully surfaced with either native or processed material. Appropriate traffic management strategies are either "encourage" or "accept". "Discourage" or "prohibit" strategies may be employed for certain classes of vehicles or users.

Level 4

Assigned to roads that provide a moderate degree of user comfort and convenience at moderate travel speeds. Most roads are double lane and aggregate surfaced; however, some roads may be single lane. Some roads may be paved or dust abated. The most appropriate traffic management strategy is "encourage". However, the "prohibit" strategy may apply to specific classes of vehicles or users at certain times.

Level 5

Assigned to roads that provide a high degree of user comfort and convenience. These roads are normally double lane, paved facilities. Some may be aggregate surfaced and dust abated. The appropriate traffic management strategy is "encourage."

Traffic Service Levels

Traffic service levels describe a road's significant traffic characteristics and operating conditions. The levels reflect a number of factors, such as speed, travel time, traffic interruptions, freedom to maneuver, safety, driver comfort, convenience, and operating cost. These factors, in turn, affect design elements, such as

- number of lanes,
- turnout spacing,
- lane widths,
- type of driving surface,
- sight distances,
- design speed,
- clearance,
- horizontal and vertical alignment,
- curve widening, and
- turnarounds.

The following table contains descriptions of the four different levels of traffic service for Forest roads.

Table Appendix D-1
Traffic Service Levels

	I	II	III	IV
Flow	Free flowing with adequate passing facilities	Congested during heavy traffic such as peak logging or recreation activities	Interrupted by limited passing facilities, or slowed by the road condition	Flow is slow or may be blocked by an activity; two-way traffic is difficult and may require backing to pass.
Volume	Uncontrolled will accommodate the expected traffic volumes	Occasionally controlled during heavy-use periods	Erratic; frequently controlled as the capacity is reached	Intermittent and usually controlled; volume is limited to that associated with the single purpose.

D Appendix

Table Appendix D-1, continued
Traffic Service Levels

	I	II	III	IV
Vehicle Types	Mixed; includes the critical vehicle and all vehicles normally found on public roads	Mixed; includes the critical vehicle and all vehicles normally found on public roads	Controlled mix; accommodates all vehicle types including the critical vehicle. Some use may be controlled to minimize conflicts between vehicle types	Single use; not designed for mixed traffic. Some vehicles may not be able to negotiate Concurrent use between commercial and other traffic is restricted.
Critical Vehicle	Clearances are adequate to allow free travel. Overload permits are required	Traffic controls needed where clearances are marginal. Overload permits required	Special provisions may be needed. Some vehicles will have difficulty negotiating some segments	Some vehicles may not be able to negotiate. Loads may have to be off-loaded and walked into
Safety	Safety features are part of the design	High priority in design Some protection is accomplished by traffic management	Most protection is provided by traffic management	The need for protection is minimized by low speed and strict traffic control
Traffic Management	Normally limited to regulatory, warning, and guide signs and permits	Employed to reduce traffic volume and conflicts	Traffic controls are frequently needed during periods of high use by the dominant resource activity	Used to discourage or prohibit traffic other than that associated with the single purpose
User Cost	Minimize; transportation efficiency is important	Generally higher than "A" because of slower speeds and increased delays	Not important; efficiency of travel may be traded for lower construction costs	Not considered
Alignment	Design speed is predominant factor within feasible topographic limitations	Influenced more strongly by topography than by speed and efficiency	Generally dictated by topographic features and environmental factors. Design speeds are generally low	Dictated by topography, environmental factors, and the design and critical vehicle limitations. Speed is not important.
Road Surface	Stable and smooth with little or no dust, considering the normal season of use	Stable for the predominant traffic for the normal use season Periodic dust control for heavy use or environmental reasons Smoothness is commensurate with the design speed	May not be stable under all traffic or weather conditions during normal use season. Surface rutting, roughness, and dust may be present but controlled for environmental or investment protection	Rough and irregular. Travel with low clearance vehicles is difficult. Stable during dry conditions. Rutting and dusting controlled only for soil and water protection

Source: Forest Service Handbook 7709.58, Transportation System Maintenance Handbook.

Road Management Objectives

Table Appendix D-2
Road Management Objectives

Road Number	Length (miles)	Existing/Proposed	Post Sale Maintenance Level	Road Management Objective	Closure Method	AFRPR Closure Status	Remarks
8300000	8.65	existing	2	accept		active	Shelter Cove
8300250	0.30	existing	1	eliminate	barrier	closed	
8300260	0.35	existing	1	eliminate	barrier	closed	
8300261	0.11	existing	1	eliminate	barrier	closed	
8300300	1.60	existing	1	eliminate	barrier	inactive	
8300340	1.20	existing	1	eliminate	barrier	closed	
8300350	0.20	proposed	1	eliminate	barrier	closed	
8300360	0.45	existing	1	eliminate	barrier	closed	
8330000	4.86	existing	1	prohibit	gate	inactive	Road to Coon Cove gate at 0.00
8330020	0.60	existing	1	eliminate	barrier	inactive	
8330400	0.66	existing	1	eliminate	barrier	inactive	
8333000	0.20	existing	1	eliminate	barrier	inactive	
8333100	0.69	existing	1	eliminate	barrier	inactive	
8333200	0.69	existing	1	eliminate	barrier	inactive	
8337000	3.52	existing	1	eliminate	barrier	inactive	
8337100	0.88	existing	1	eliminate	barrier	inactive	
8337500	0.67	existing	1	eliminate	barrier	inactive	
8337600	1.31	existing	1	eliminate	barrier	inactive	
8337650	0.29	existing	1	eliminate	barrier	inactive	
8340000	12.40	existing	2	accept		active	
8340100	0.54	existing	2	accept		active	LTF—Shelter Cove
8340106	0.98	existing	2	accept		active	LTF—Shelter Cove
8340160	1.80	existing	1	eliminate	barrier	inactive	0.9 existing
8340200	2.30	both	1	eliminate	barrier	inactive	1.0 existing, 1.3 proposed
8340220	0.50	proposed	1	eliminate	barrier	closed	

D Appendix

Table Appendix D-2, continued
Road Management Objectives

Road Number	Length (miles)	Existing/Proposed	Post Sale Maintenance Level	Road Management Objective	Closure Method	AFRPR Closure Status	Remarks
8340230	1.50	proposed	1	eliminate	barrier	inactive	
8340240	0.50	proposed	1	eliminate	barrier	closed	
8340400	2.00	both	1	eliminate	barrier	inactive	1.2 existing, 0.8 proposed
8340600	0.50	proposed	1	eliminate	barrier	closed	
8340700	2.00	both	1	eliminate	barrier	inactive	
8340800	1.00	proposed	1	eliminate	barrier	closed	
8340900	2.50	existing	1	eliminate	barrier	inactive	
8347000	0.77	existing	1	eliminate	barrier	inactive	
8400000	10.30	both	2	accept		active	4.9 existing Elf Point mainline
8400000	14.20	existing	2	accept		active	Shoal Cove Sec.
8400140	0.50	existing	2	accept		active	LTF—Elf Point
8400150	2.10	existing	2	eliminate	barrier	inactive	
8400180	0.30	proposed	1	eliminate	barrier	closed	
8400190	0.40	proposed	1	eliminate	barrier	closed	
8400280	1.06	both	1	eliminate	barrier	closed	
8400285	0.60	proposed	1	eliminate	barrier	closed	
8400300	0.75	existing	1	eliminate	barrier	closed	
8400320	0.40	proposed	1	eliminate	barrier	closed	
8400260	0.50	proposed	1	eliminate	barrier	closed	
8400340	0.80	both	1	eliminate	barrier	closed	0.2 existing, 0.6 proposed
8400342	0.40	proposed	1	eliminate	barrier	closed	
8400350	0.75	existing	1	accept		active	access to cg
8400360	0.66	existing	1	eliminate	barrier	inactive	
8400420	1.30	existing	1	accept		active	LTF access
8400425	0.70	proposed	1	eliminate	barrier	closed	
8400431	1.04	existing	1	eliminate	barrier	closed	
8400440	1.77	existing	1	eliminate	gate	inactive	
8400443	0.67	existing	1	eliminate	barrier	closed	
8400444	0.86	existing	1	eliminate	barrier	closed	

Table Appendix D-2, continued
Road Management Objectives

Road Number	Length (miles)	Existing/Proposed	Post Sale Maintenance Level	Road Management Objective	Closure Method	AFRPR Closure Status	Remarks
8400450	2.29	existing	1	eliminate	barrier	closed	
8400452	0.82	existing	1	eliminate	barrier	closed	
8400460	0.42	existing	1	eliminate	barrier	closed	
8400480	0.80	proposed	1	eliminate	barrier	closed	
8410000	1.50	both	1	eliminate	barrier	inactive	Elf Point
8415000	1.25	existing	1	eliminate	barrier	closed	Elf Point
8422000	1.65	proposed	1	prohibit	gate	inactive	
8422100	0.50	proposed	1	eliminate	barrier	closed	
8430000	13.18	existing	1 and 2	prohibit	barrier	close	open to mile post 8.1
8430010	0.50	proposed	1	eliminate	barrier	closed	
8430030	1.20	both	1	eliminate	barrier	closed	close all
8430060	0.70	proposed	1	eliminate	barrier	closed	
8430080	0.64	both	1	eliminate	barrier	closed	close all
8430082	0.55	proposed	1	eliminate	barrier	closed	
8430200	1.00	existing	1	eliminate	barrier	closed	close all
8430290	0.63	both	1	eliminate	barrier	closed	close all
8430295	0.60	proposed	1	eliminate	barrier	closed	
8430297	0.33	existing	1	eliminate	barrier	closed	
8430298	0.40	existing	1	eliminate	barrier	closed	
8430299	0.21	existing	1	eliminate	barrier	closed	
8430450	0.65	existing	1	eliminate	barrier	closed	
8430500	1.70	existing	1	eliminate	barrier	closed	
8430550	0.50	existing	1	eliminate	barrier	closed	
8430553	0.20	existing	1	eliminate	barrier	closed	
8430600	0.71	existing	1	eliminate	barrier	closed	
8435000	3.79	existing	1	eliminate	barrier	closed	close all
8435050	0.34	existing	1	eliminate	barrier	closed	
8435070	0.70	existing	1	eliminate	barrier	closed	
8435100	0.28	existing	1	eliminate	barrier	closed	

D Appendix

Table Appendix D-2, continued
Road Management Objectives

Road Number	Length (miles)	Existing/ Proposed	Post Sale Maintenance Level	Road Management Objective	Closure Method	AFRPR Closure Status	Remarks
8435150	0.28	existing	1	eliminate	barrier	closed	
8435180	0.34	existing	1	eliminate	barrier	closed	
8437000	1.04	proposed	1	eliminate	barrier	closed	
8440000	3.54	existing	2	accept		active	
8440100	3.04	both	1 and 2	eliminate	barrier	closed	close at miles post 1.5
8440110	0.30	proposed	1	eliminate	barrier	closed	
8440113	0.30	proposed	1	eliminate	barrier	closed	
8440115	0.30	proposed	1	eliminate	barrier	closed	
8440200	0.43	existing	1	eliminate	barrier	closed	
8440600	1.11	proposed	1	eliminate	barrier	closed	
8440700	0.50	proposed	1	eliminate	barrier	closed	
8441000	1.40	existing	1	eliminate	barrier	inactive	
8441100	1.23	both	1	eliminate	barrier	closed	
8441105	0.18	proposed	1	eliminate	barrier	closed	
8442000	3.88	existing	1	eliminate	barrier	closed	present closed
8442100	0.98	existing	1	eliminate	barrier	closed	
8444000	4.34	existing	1	eliminate	barrier	inactive	
8444050	1.05	existing	1	eliminate	barrier	closed	
8444100	0.50	existing	1	eliminate	barrier	inactive	
8445000	1.70	proposed	1	eliminate	barrier	closed	
8445100	0.40	proposed	1	eliminate	barrier	closed	
8446000	8.20	existing	2	accept	gate	active	
8446100	0.90	existing	1	eliminate	barrier	inactive	
8446200	1.09	existing	1	eliminate	barrier	closed	

Source: Oien 1998.

END APPENDIX D

Appendix E

Recommended Sale Area Improvement Projects

Recommended Sale Area Improvement Projects

Knutsen-Vandenberg (KV)

The Knutsen-Vandenberg Act was created to help fund sale-area-improvement projects. Knutsen-Vandenberg funds are the portion of timber sale receipts collected and used for reforestation and other renewable resource projects on the sale area.

Essential Reforestation

Natural Regeneration Stocking Surveys

Objective/Justification

The objective of natural-regeneration surveys is to monitor the occurrence of natural regeneration following timber harvest. The National Forest Management Act (NFMA) of 1976 states:

"It is the policy of Congress that all forested lands in the National Forest system shall be maintained in appropriate forest cover with species of trees, degree of stocking, rate of growth, and condition of stand designed to secure the maximum benefits of multiple-use sustained-yield management in accordance with land management plans."

Treatment

Stocking surveys shall be conducted after three growing seasons following harvest. This is to assure that satisfactory levels of natural stocking have been achieved as prescribed in the stocking-level guides of the Forest Service Handbook (FSH) 2409.17, Silvicultural Practices, Chapter 9.

Needs/Cost

The reporting and record keeping required to track and monitor the harvesting, regeneration, and the certification process is included in the regeneration-survey costs. Surveys will be conducted at a direct cost of \$8.50 per acre.

The following equations show adjustments made to the direct cost for a 4 percent inflation rate over 7 years (the time at which the surveys will occur from present) and for overhead (OH) costs.

$$\$8.50/\text{acre} \times 1.04^7 = 11.19/\text{acre}$$

$$11.19/\text{acre} \times 1.5303 \text{ (OH)} = \$17.12/\text{acre}$$

Table Appendix E-1 displays the total anticipated regeneration-survey costs by alternative.

E Appendix

Table Appendix E-1
Anticipated Regeneration Survey Cost

Alternative	Cost/Acre	Acres	Total Cost
2	\$17.12	2,857	\$ 48,911.84
5	\$17.12	867	\$ 14,843.04
7	\$17.12	1,828	\$ 31,295.36

Source: Trulock 1998.

Cone Collection

Objective/Justification

The objective of cone collection is to collect an adequate amount of seed from the appropriate seed zones to accomplish the planting objectives established by this Environmental Impact Statement (EIS). All seed will be collected from phenotypically superior trees which exhibit desirable form, height, branch angle, resistance to insects and disease, etcetera. The Ketchikan Area has sufficient spruce seed on hand to meet its spruce-planting needs, however lacks seed for Alaska yellowcedar and western redcedar planting. Planting roughly 75 acres of western redcedar and Alaska yellowcedar in all action alternatives will require 22,500 seedlings (75 acres X 300 trees per acre). Approximately 40,000 seedlings can be produced per pound of clean seed; therefore 0.6 pounds of clean seed or 3 bushels of cones must be collected (5 bushels of cones yield 1 pound of seed).

Treatment

Cone collections will occur in moderate or good cone-collecting years, based on field surveys. Collections will be done by force-account crews, in the fall after the cones have matured. Collection will involve identifying phenotypically superior trees, felling the tree, picking and bagging the cones, tagging the bags, and transporting the cones to Petersburg where the seed will be cleaned and stored until needed. Seed collections will be separated by Southeast Alaska seed zones to make sure the planting stock is adapted to the location where it will be planted.

Needs/Cost

Three bushels of seed will be collected from the appropriate seed zones at a direct cost of \$250.00 per bushel.

The following equations show adjustments made to the direct cost for a 4 percent inflation rate over 2 years (the time at which cone collection will occur) and for overhead (OH) costs.

$$\$250.00/\text{bushel} \times 1.04^2 = \$270.40/\text{bushel}$$

$$\$270.40/\text{bushel} \times 1.5303 \text{ (OH)} = \$413.79/\text{bushel}$$

The total cone collection cost for each action alternative is $\$413.79/\text{bushel} \times 3 \text{ bushels} = \$1,241.37$.

Planting

Objective/Justification

Planting will occur only on those sites where natural regeneration will not result in a fully stocked stand of desirable species within 5 years after harvest, as required under the NFMA (1976).

The requirements and guidelines for minimum acceptable stocking levels are listed in FSH 2409.17.

The sites to be planted fall under three general categories:

1. Floodplains and Alluvial Fans

These areas usually have deep well-drained soils with poorly developed soil horizons due to periodic flooding. Mature stands rarely support more than 100 to 150 stems per acre. The species

composition is primarily spruce, growing on raised hummocks. Perturbation (soil disturbance) results in heavy brush (alder, salmonberry, and devil's club) competition that will delay natural regeneration and suppress tree growth for a period of 20 to 50 years following harvest. The vast majority of the Tonowick and Tuxekan soil series have been excluded from harvest in recent years, but small inclusions will be treated in this Project. These sites will be planted with Sitka spruce.

2. Dense Brush or Inadequate Seed Source

Sparsely stocked sites with an established ground cover of dense vegetation, such as salmonberry or devil's club, will have retarded stocking and growth for at least 20 years. Sites having dense brush will be planted with Sitka spruce. Areas of inadequate seed source include high-elevation sites, sites adjacent to muskegs or lakes, and immature stands where natural regeneration cannot be assured or even reasonably expected within 5 years after harvest. These sites will be planted with Sitka spruce.

3. Somewhat-Poorly Drained to Poorly Drained Soils, Low-Productivity Cedar Sites

These sites currently support decadent, low-quality sawtimber with cedar making up at least 10 percent of the canopy. Getting natural cedar regeneration on these sites is unlikely because:

- Cedar has limited capabilities to disperse seed over long distances from the parent tree. Alaska yellowcedar seed dispersion is limited to 300 to 400 feet.
- Alaska yellowcedar is not a prolific seed producer. Cone crops are infrequent and germination rates are low.
- Unlike "down-south" cedar, the two cedar species here in Southeast Alaska display a greater degree of intolerance to shade. Local cedar is unable to regenerate under its own canopy and advanced cedar reproduction is generally absent on the forest floor.
- Low-volume cedar stands often result in heavy slash accumulation which can inhibit natural reproduction. Prescribed burning may be required to lower slash levels for planting ease.

Due to the factors listed above, planting of western redcedar and/or Alaska yellowcedar to improve productivity and maintain tree species diversity shall be addressed in the silvicultural prescription for cedar stands. The "*Relationship of Forest Plant Association to Soils Series...Ketchikan Area*" tables, which are found in the back of the "*Forest Plant Association Management Guide, Ketchikan Area, Tongass National Forest*" (DeMaco 1992) were used to identify potential sites.

Treatment

Sites identified in floodplains, alluvial fans, dense shrub, or areas of inadequate seed source will be planted with 1-0 Sitka spruce stock. The low-productivity cedar sites will be planted with 1-0 western redcedar or Alaska yellowcedar. Generally, a mixture of western redcedar and Alaska yellowcedar will be planted on north and east aspects below 800 feet in elevation, and on south and west aspects below 1,000 feet. Cedar sites with elevations above those listed have been scheduled for Alaska yellowcedar planting only.

Needs/Cost

The direct cost of planting is \$350.00 per acre.

The following equations show adjustments made to the direct cost for a 4 percent inflation rate over 6 years (the time at which the planting will occur) and for overhead (OH) costs.

$$\$350.00/\text{acre} \times 1.04^6 = \$442.86/\text{acre}$$

$$\$442.86/\text{acre} \times 1.5303 \text{ (OH)} = \$677.71/\text{acre}$$

E Appendix

Table Appendix E-2
Planting Costs

Alternative	Cost Per Acre	Required Acres	Cost
2	\$677.71	73	\$49,472.83
5	\$677.71	17	\$11,521.07
7	\$677.71	55	\$37,274.05

Source: Trulock 1998.

Plantation Survival Surveys

Objective/Justification

The objective of plantation-survival surveys is to monitor the survival and condition of planted trees, one and three growing seasons following planting, to certify that minimum stocking levels are achieved as required by the NFMA (1976).

Treatment

Plantation-survival stake rows will be established and surveyed the first and third growing seasons following planting. The 3rd-year survey also determines the overall stocking for both planted and established natural regeneration.

Needs/Cost

The 1st and 3rd-year survival surveys will have a direct cost of \$17.00 per acre.

The following equations show adjustments made to the direct cost for a 4 percent inflation rate over 8 years and for overhead (OH) costs.

$$\$17.00/\text{acre} \times 1.04^8 = \$23.27/\text{acre}$$

$$\$23.27/\text{acre} \times 1.5303 \text{ (OH)} = \$35.61/\text{acre}$$

Table Appendix E-3
Plantation Survival Surveys

Alternative	Cost/Acre	Acre	Cost
2	\$35.61	73	\$ 2,599.53
5	\$35.61	17	\$605.37
7	\$35.61	55	\$ 1,958.55

Source: Trulock 1998.

**Riparian
Management
Area
Vegetation
Manipulation**

Nonessential Projects

Objective/Justification

The primary objective is to restore the riparian vegetation to old-growth conditions, within units and along roads. The secondary objective is to accelerate tree growth for recruitment of large woody debris (LWD).

The Low Gradient Contained (LC) channel process group is associated with the Sitka spruce, western hemlock, and mixed conifer series. The Moderate Gradient Contained (MC) channel process group is associated with the western hemlock, shorepine, mixed conifer and nonforested plant series. The Flood Plain (FP) channel process group is associated with the Sitka spruce and nonforested plant series. The Alluvial Fan (AF) channel process group is associated with the Sitka spruce series. The Mixed Control Moderate Gradient (MM) channel process group is associated with the western hemlock and nonforested plant series. See the *Channel Type Users Guide*, 1992.

Some streams contain excessive amounts of LWD that either preclude fish migration or create dam pools that store excessive amounts of sediment. Large woody debris provides little influence to quality of fish habitat in bedrock controlled channel types such as MC or LC channel process groups; this is in stark contrast to FP, AF, or MM channel process groups. In FP, AF, or MM contained channel process groups the LWD plays an important role in channel process and function (except in AF8, FP1, or FP2).

Treatment

Pruning is prescribed for MC and LC channel process groups to increase sunlight to the understory thus accelerating growth rate of forbes and shrubs that increase soil stability.

Variable space thinning is prescribed for FP, MM, or AF channel process groups, to attain increased growth rate and size of selected trees. Increased understory vegetative biomass, due to additional light, will provide the benefit of soil stability and wildlife forage.

A third treatment is to create a mosaic of pruning and thinning. This prescription would be used along short (< 300 meters) channels which contain more than one channel process group.

Needs/Cost

It is anticipated that 6 kilometers will need to be treated; with a total buffer of 200 feet, this translates into 90.38 acres.

Thinning

The following equations show adjustments made to the direct cost for a 4 percent inflation rate over 6 years (the time at which treatment will occur from present) and for overhead (OH) costs.

$$\$350.00/\text{acre} \times 1.04^6 = \$442.86/\text{acre}$$

$$\$442.86/\text{acre} \times 1.5303 \text{ (OH)} = \$677.71/\text{acre}$$

The total estimated cost for thinning is $90.38 \text{ acres} \times \$677.71 = \$61,251.43$.

Pruning

The following equations show adjustments made to the direct cost for a 4 percent inflation rate over 6 years (the time at which treatment will occur from present) and for overhead (OH) costs.

$$\$200.00/\text{acre} \times 1.04^6 = \$253.06/\text{acre}$$

$$\$253.06/\text{acre} \times 1.5303 \text{ (OH)} = \$387.26/\text{acre}$$

The total estimated cost for pruning is $90.38 \text{ acres} \times \$387.26 = \$35,000.56$.

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Monitoring

The following equations show adjustments made to the direct cost for a 4 percent inflation rate over 8 years (when monitoring will occur, 2 years after treatment) and for overhead (OH) costs.

$$\$329.10/\text{kilometer} \times 1.04^8 = \$450.40/\text{kilometer}$$

$$\$450.40/\text{kilometer} \times 1.5303 \text{ (OH)} = \$689.25/\text{kilometer}$$

The total estimated cost for monitoring is 6 kilometers \times \$689.25/kilometer = \$4,135.50.

Instream Restoration

Objective/Justification

In order to meet the objective of restoring habitat, some debris jams need to be manipulated. Excessive amounts of LWD can create migration problems for adult salmonids and, in some channel process groups, cause channel widening. Channel widening decreases residual pool depths which results in increased flow velocity due to shallowness.

Treatment

The treatment is to remove some of the wood and to relocate the slash above the mean high-water mark or allow the slash to move downstream. This manipulation would allow upstream fish migration, create more complex habitat downstream, and facilitate transport of new sediment stored behind debris jams. Fish habitat requires some sediment input to streams. Caution will be applied when debris jams are removed to avoid too much sedimentation of downstream spawning and rearing areas and loss of hydraulic stability.

Needs/Cost

It is anticipated that 6 kilometers will need to be treated.

LWD Removal

The following equations show adjustments made to the direct cost for a 4 percent inflation rate over 6 years (the time at which treatment will occur, from present) and for overhead (OH) costs.

$$\$7,341.67/\text{kilometer} \times 1.04^6 = \$9,289.55/\text{kilometer}$$

$$\$9,289.55/\text{kilometer} \times 1.5303 \text{ (OH)} = \$14,215.80/\text{kilometer}$$

The total estimated cost for LWD removal is 6 kilometers \times \$14,215.80/kilometer = \$85,294.80.

Monitoring

The following equations show adjustments made to the direct cost for a 4 percent inflation rate over 8 years (the time monitoring will occur, 2 years after treatment) and for overhead (OH) costs.

$$\$329.10/\text{kilometer} \times 1.04^8 = \$450.40/\text{kilometer}$$

$$\$450.40/\text{kilometer} \times 1.5303 \text{ (OH)} = \$689.25/\text{kilometer}$$

The total estimated cost for LWD removal is 6 kilometers \times \$689.25/kilometer = \$4,135.50.

**Slide
Stabilization****Objective/Justification**

The objective is to stabilize, rehabilitate, and monitor harvest-activity-initiated landslides, within units and along roads.

Approximately 1 debris slide, 5 acres or larger, occurs for every 2,240 of harvested acres Forest wide (TLMP 1997). If slides smaller than 5 acres are included, then the number of debris slides occurring for every 2,240 harvested acres would increase 150 percent. The average size of a slide on the Ketchikan Area is 5 acres (Loggy 1974).

The majority of these slides normally occur within a 5- to 10-year period after cutting or roading due to a combination of the following

- over-steepened side slopes,
- storms with high wind and intensive rain fall, and
- where the roots of severed trees have lost their holding strength (in 3 to 5 years after harvest).

Approximately 867 to 2,857 acres are proposed for harvest. This would equate to 0.39 to 1.28 slides associated with harvest. At 5 acres per slide, this would equate to 1.95 to 6.4 acres of soil disturbance that would need stabilizing and rehabilitation.

Treatment

The treatment is to stabilize surface soil erosion to prevent or reduce further sediment introduction into streams and loss in soil productivity of the remaining soil in the slide tract.

Slides that have occurred will be rehabilitated using native (when available) grasses and/or herbaceous vegetation. Follow up monitoring will be done 2 years after initial rehabilitation to insure stabilization has been accomplished.

Needs/Cost

Assuming the maximum amount of acres, 2,857, are harvested, 1.28 slides would occur leaving 6.4 acres of soil for rehabilitation. The direct cost per acre for stabilization is \$981.00. Each stabilized landslide will be monitored 2 years after initial treatment; the associated cost is \$500 per slide.

Stabilization

The following equations show adjustments made to the direct cost for a 4 percent inflation rate over 11 years (the time at which treatment will occur) and for overhead (OH) costs.

$$\$981.00/\text{acre} \times 1.04^{11} = \$1,510.20/\text{acre}$$

$$\$1,452.12/\text{acre} \times 1.5303 \text{ (OH)} = \$2,311.06/\text{acre}$$

The total cost for slide rehabilitation is $\$2,311.06/\text{acre} \times 6.4 \text{ acres} = \$14,790.78$.

Monitoring

The following equations show adjustments made to the direct cost for a 4 percent inflation rate over 13 years (the time at which monitoring will occur, 2 years after treatment) and for overhead (OH) costs.

$$\$500.00/\text{slide} \times 1.04^{13} = \$832.54/\text{slide}$$

$$\$832.54/\text{slide} \times 1.5303 \text{ (OH)} = \$1,274.04/\text{slide}$$

The total cost for monitoring is $\$1,274.04/\text{slide} \times 1.28 \text{ slides} = \$1,630.77$.

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Seeding of Roads

Objective/Justification

The objective is to minimize soil loss, sedimentation, and inhibit alder regrowth. A secondary objective would be to increase forage production for wildlife within and adjacent to harvest units. Seeding of roads is consistent with Regional and Forest direction to maintain or enhance wildlife habitat capability.

Treatment

The timber-sale operator is responsible for seeding all temporary roads and landings following a timber sale. However, we anticipate that there will be some seeding failures. Therefore, treatment will include re-seeding of temporary roads and landings where initial seeding attempts failed, and seeding of roads which have been closed to vehicle access. The seed mixture will contain a mixture of native species (if available). If native seed is not available, a seed mixture of nonnative species will be developed with the input of the Area Ecologist or Botanist.

Roads designated for closure and, consequently, wildlife forage seeding are displayed in Figure Roads-1, in the Roads and Facilities section, of Chapter 3, Volume I of this EIS.

Needs/Costs

Approximately 35 acres are expected to fail initial seeding by the timber operator and will be treated under all of the action alternatives. The direct cost for hand seeding is \$1,050.00 per acre.

The following equations show adjustments made to the direct cost for a 4 percent inflation rate over 6 years (the time at which treatment will occur) and for overhead (OH) costs.

$$\$1,050/\text{acre} \times 1.04^6 = \$1,328.59/\text{acre}$$

$$\$1,328.59/\text{acre} \times 1.5303 \text{ (OH)} = \$2,033.14/\text{acre}$$

The total cost of seeding roads is $\$2,033.14/\text{acre} \times 35 \text{ acres} = \$71,159.94$

Wildlife-Habitat Improvement

Objective/Justification

The objective is to increase growth of individual trees in order to produce large trees which fulfill wildlife objectives such as nesting platforms. A secondary objective is to increase forage production for wildlife within young-growth units that are no longer within the timber base (due to Land Use Designation (LUD) changes in the TLMP 1997). Thinning and pruning is consistent with the TLMP wildlife-habitat-improvement Standard and Guidelines.

Treatment

The treatments would vary dependant on the age of the stands. Precommercial thinning will be utilized where the timber has not grown to a merchantable size. Commercial thinning will be used to help offset the costs of the treatment wherever it is biologically and operationally deemed to be beneficial. This would help address some the slash concerns in regards to freedom of movement for wildlife. Spacing of trees will vary widely, dependant on stand conditions. Some clearing and maintenance of roads may need to take place. Little, if any, road would actually need to be reconstructed, however landings on roads may need to be built.

Pruning would be best used in conjunction with either current or past thinning. This would consist of removing the lower limbs from trees to help increase light levels on the forest floor and increase individual tree growth. The level of pruning on the trees will vary as will the number of trees treated; every third tree and retention of 30 to 40 percent of the crown will probably be the average.

Needs/Costs

Approximately 100 acres of thinning and 50 acres of pruning will be treated under all of the action alternatives.

Thinning

The following equations show adjustments made to the direct cost for a 4 percent inflation rate over 6 years (the time at which treatment will occur, from present) and for overhead (OH) costs.

$$\$350.00/\text{acre} \times 1.04^6 = \$442.86/\text{acre}$$

$$\$442.86/\text{acre} \times 1.5303 \text{ (OH)} = \$677.71/\text{acre}$$

The total thinning cost is $\$677.71/\text{acre} \times 100 \text{ acres} = \$67,771.00$.

Pruning

The following equations show adjustments made to the direct cost for a 4 percent inflation rate over 6 years (the time at which treatment will occur, from present) and for overhead (OH) costs.

$$\$200.00/\text{acre} \times 1.04^6 = \$253.06/\text{acre}$$

$$\$253.06/\text{acre} \times 1.5303 \text{ (OH)} = \$387.26/\text{acre}$$

The total pruning cost is $\$387.26/\text{acre} \times 50 \text{ acres} = \$19,363.00$.

The completion of these activities is entirely dependant upon funding either from Knutsen-Vandenberg or other appropriated funds.

Interpretation Objective/Justification

The objective of interpretation is to explain what silvicultural treatments have taken place in certain units, and how these treatments tie into the bigger picture of ecosystem management and desired future conditions.

Treatment

The treatment is to use interpretive signs to explain treatments that have occurred on the Shelter Cove road system. Signs will be placed on the road, in units, and in conjunction with dispersed recreation sites. Brochures will be prepared which include a map of the road system, locations of signs, an explanation of silvicultural treatments, information on desired future condition based on LUD, and how it all ties together with ecosystem management.

Needs/Costs

The direct cost for interpretive signs is \$5,000.00.

The direct cost for brochures is \$5,000.00.

The following shows the adjustments to the direct cost for a 4 percent inflation rate for 6 years (the time at which signs and brochures will be made) and for overhead (OH) costs.

$$\$10,000 \times 1.04^6 = \$12,653.19$$

$$\$12,653.19 \times 1.5303 \text{ (OH)} = \$19,363.18$$

The completion of these projects is entirely dependant upon funding either from Knutsen-Vandenberg or other appropriated funds.

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Table Appendix E-4
Direct Cost Breakdown

PROJECT	PERSONNEL (Includes Contract Preparation and Administration)	SUBSISTENCE	TRAVEL (FW, Helicopter, Boat, Vehicle, Other)	OTHER (Facilities, Equipment, Contracts, etc.)	TOTAL EXPENSES
Essential Reforestation					
Natural Regeneration Surveys (3 & 5 Years)	\$4.88/acre ^{1/2/}	\$ 0.48	\$ 0.64	\$2.50 ^{3/}	\$8.50/acre
Planting	\$74.00/acre		\$53.00 ^{4/}	\$223.00 ^{5/}	\$350.00/acre
Plantation Survival Surveys (1 & 3 Years)	\$8.00/acre	\$ 0.48	\$4.02	\$4.50	\$17.00/acre
Cone Collection	\$184.00/bushel		\$13.00	\$53.00	\$250.00/bushel
Nonessential Projects					
RMA Vegetation Manipulation	\$50.00/acre		\$50.00	\$250.00	\$350.00/acre
Thinning	\$50.00/acre		\$50.00	\$250.00	\$350.00/acre
Pruning	\$50.00/acre		\$25.00	\$100.00	\$200.00/acre
Monitoring	\$166.66/km	\$15.00	\$33.33	\$114.11	\$329.10/km
In-stream Restoration	\$4,625/km	\$350.00	\$200.00	\$2,166.67	\$7,341.67/km
Monitoring	\$166.66/km	\$15.00	\$33.33	\$114.11	\$329.10/km
Slide Stabilization	\$131.00/acre		\$150.00	\$700.00	\$981.00/acre
Monitoring	\$333.00/slide		\$125.00	\$42.00	\$500.00/slide
Seeding of Roads	\$318.00/acre		\$32.00	\$700.00	\$1,050.00/acre
Wildlife Habitat Improvement					
Thinning	\$50.00/acre		\$50.00	\$250.00	\$350.00/acre
Pruning	\$50.00/acre		\$25.00	\$100.00	\$200.00/acre
Interpretation	\$1,000.00		\$250.00	\$8,750.00	\$10,000.00

Source: Trulock 1998.

^{1/} A 15 percent facilities support charge not included in overhead calculations has been assigned here.

^{2/} Includes office and field work associated with surveys, database updates and record keeping.

^{3/} The prorated cost of analysis of aerial photography necessary for the regeneration process and database updates.

^{4/} Includes the cost of personnel and seedling transportation.

^{5/} Includes the cost of the planting contract, seedlings, coolers, and facilities.

Literature Cited

- DeMeo, T.D. 1992. *Forest Plant Association Management Guide: Ketchikan Area, Tongass National Forest*. USDA Forest Service. Ketchikan, Alaska.
- Loggy, W.D. 1974. *Landslide Inventory of the Harris River Drainage*. Unpublished report. USDA Forest Service, Tongass National Forest, Ketchikan Area. Ketchikan, Alaska.
- National Forest Management Act. 1976. Public Law 94-588, 90 Stat. 2949, as amended; 16 U.S.C. 36 CFR 219.
- USDA Forest Service. *Silvicultural Practices Handbook*. USDA Forest Service Handbook 2409.17, Chapter 9.
- USDA Forest Service. 1992. *Channel type User Guide, Tongass National Forest, Southeast Alaska*. USDA Forest Service, Tongass National Forest, R10-TP-26. Alaska Region, Juneau, Alaska.

E Appendix



END APPENDIX E

Appendix F

Watershed Values Matrix

Wetland Values Matrix

Wetland values are defined here as socioeconomic benefits (goods and services, quantifiable and other) derived from wetland functions. Wetland functions are physical attributes of the wetland ecosystem and can be organized as follows:

- Hydro-geomorphic functions: groundwater recharge and discharge, surface hydrologic control, streambank and shoreline maintenance, erosion control, sediment storage, temperature regulation, microclimate control, karst landscape formation, and maintenance of overall landscape diversity.
- Bio-chemical functions: element cycling, maintenance of water chemistry, carbon and nitrogen storage, nutrient export and utilization, and decomposition.
- Biological functions, terrestrial and aquatic: habitat for vascular and nonvascular plants, fish, mammals, gamebirds, nongamebirds, invertebrates; primary and secondary productivity; and biological diversity.

The biological significance of a wetland is related to the value of its functions and, at least in part, to the relative scarcity of the wetland type in the landscape. This is especially true in terms of biological diversity on the landscape scale. The relatively scarce fens and estuarine salt marshes in the Sea Level Area have a greater biological significance than the more common bogs and forested wetlands which are widespread throughout the landscape.

The interdisciplinary team (IDT), made up of specialists in fisheries, timber, recreation, vegetation, watershed, and wildlife management, has assigned relative wetland values to the various wetland types found in the Project Area. These values are based upon the social and economic benefits derived from the different types of wetlands, and the relative abundance and location of the wetland types. These wetland values were used in development and analysis of Project alternatives. Wetland values were also considered in making decisions concerning the minimization of, development in or avoidance of wetlands, and the design and implementation of mitigation measures. The value assessment for this Project was based upon a number of important socioeconomic uses of the twelve wetland types identified and mapped in the Project Area. These socioeconomic uses include

- hunting and trapping (subsistence and sport),
- fishing (commercial, subsistence, and sport),
- timber harvest (commercial, fuel-wood, and personal use),
- other plant harvest (mushrooms, herbs, berries, etc.),
- Threatened, Endangered, and Sensitive (TE&S) species habitat,
- water-quality maintenance (the importance of wetlands in filtering and/or breaking down physical, chemical, and biological pollutants),
- flood control (the effectiveness in moderation of high-water flows), and
- recreation opportunities (the amount of outdoor recreation which takes place in wetlands).

High value has been assigned to several wetland types. These high-value wetlands include the estuarine meadows, lakes and ponds, tall-sedge fens, and the riparian forest. These wetlands serve as important habitat for anadromous and resident fish, Sitka black-tailed deer, black bear, martin, mink and other fur bearers. They provide important elements of streambank and shoreline maintenance and serve to directly regulate stream flow and water quality. A number of unique or sensitive plant species are typically concentrated in these wetland types. The riparian forests typically have a very high

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timber site productivity and support high-volume Sitka spruce stands. Typically these are high-use subsistence areas. These wetland types are relatively scarce and scattered throughout the Project Area. Maintenance of their important functions and values are a high priority for the management of the Project Area.

Medium-value wetlands include the alpine tall-sedge fens, alder/salmonberry shrublands, short-sedge muskeg and Sphagnum peat bogs. These wetlands serve as:

- seasonally important habitat for terrestrial wildlife,
- habitat for unique plant and animal species,
- groundwater recharge and discharge, and
- maintenance of landscape diversity.

Sphagnum peat bogs and the short-sedge muskeg are important berry harvesting areas. They are locally common, but are typically concentrated on certain parts of the landscape. Several of these wetland types are in open terrain that provide enjoyable walking and scenic views.

Low-value wetlands include those types dominated by scrub-shrub forest or low-productivity forestland. These wetland types include the alpine shrubland muskeg, subalpine forested wetlands, forested wetlands, and scrub-shrub muskeg. These wetland types cover extensive areas of the Project Area. They generally provide only marginal habitat for terrestrial wildlife and aquatic organisms. They have some value for groundwater recharge and maintenance of streamflow. Generally, the timber site productivity of these forested wetlands is low, and they often support noncommercial or marginally commercial forest stands. Usually the vegetation grows too thick and is too difficult to negotiate to provide an enjoyable recreation experience.

The Wetland Value Matrix table displays a matrix of how valuable each of the wetland types (found in the Project Area) are to socioeconomic benefits. This matrix was used by the IDT to combine the specific ratings into an overall total rating for each wetland type. No specific benefit was given higher weight than any other benefit. The overall rating was not necessarily a summation of specific ratings, but is based upon a relative average of specific ratings. The various wetland types found in the Area are displayed in the first column. Specific ratings (high, medium, and low) are displayed for each wetland as to how it fulfills the socioeconomic benefit. This list is intended to represent some of the most socially and economically significant benefits within the Project Area, but is by no means intended to represent all the possible socioeconomic values and benefits derived from these wetlands.

Table Wetland Values Matrix-1
Wetland Type and Associated Values

Wetland Type	Hunting and Trapping	Fishing	Timber Harvest	Other Plant Harvest	TE&S Species Habitat	Water-Quality Maintenance	Flood Control	Recreation Opportunities	Total Value
Alpine Shrubland Muskeg	Low	Low	N/A	High	Low	Low	Low	Low	Low
Alpine Sedge Fen	Medium	Low	N/A	Low	High	Low	Medium	Medium	Medium
Alder Salmonberry Shrublands	Low	Low	N/A	High	Low	Medium	Medium	Low	Medium
Estuarine Meadow	High	High	N/A	High	Low	Medium	High	High	High
Short-Sedge Muskeg	Medium	Low	N/A	Medium	Medium	Medium	Medium	Medium	Medium
Forested Wetland	Low	Low	Medium	Medium	Low	Low	Low	Low	Low
Sphagnum Peat Bog	Low	Low	N/A	High	Medium	Medium	Medium	High	Medium
Tall-Sedge Fen	High	Medium	N/A	Medium	High	High	High	High	High
Scrub-Shrub Muskeg	Low	Low	N/A	Medium	Low	Low	Low	Low	Low
Riparian Forest	High	High	High	High	High	High	High	High	High
Subalpine Forested Wetland	Low	Low	Low	Low	Low	Low	Low	Low	Low
Lakes and Ponds	High	High	N/A	Low	Low	High	High	High	High

Source: Babik, 1997.

F Appendix



END APPENDIX F

Appendix G

Response to Public
Comment on the
Sea Level Draft EIS

Response to Public Comments on the Sea Level Draft EIS

Introduction

Appendix G includes all written comments received for the Sea Level Draft Environmental Impact Statement (EIS) and U.S. Forest Service response to the issues addressed in public comment. The Forest Service received a total of 15 written and oral comments. The Interdisciplinary Team (IDT) thoroughly and objectively read and analyzed every substantive issue or concern. Individual comments/issues within each letter were numbered to facilitate analysis.

The Forest Service responses: provide an overview of Forest Service policy or direction regarding the issue, discuss how the issue has been addressed, and direct the reader to the appropriate section of the Final EIS or the 1997 Tongass Land Management Plan (TLMP) for a more complete discussion.

Subsistence Hearings

No individuals testified at the U.S. Forest Service subsistence hearings held July 16, 1998 at Saxman or August 1, 1998 in Metlakatla, Alaska.

Letters Received from Individuals, Organizations, and Agencies

The following list includes all individuals, organizations, and agencies that the U.S. Forest Service received comments from during the 45-day comment period following the publication of the Sea Level Draft EIS.

Letter	First Name	Last Name	City	State	Organization	Pages
1	Bill	Hanson	Ketchikan	AK	Alaska Dept. of Fish and Game	2 - 13
2	Kevin J.	Hanley	Juneau	AK	Alaska Dept. of Environmental Conservation	14 - 35
3	Richard B.	Parkin	Seattle	WA	U.S. Environmental Protection Agency - Region 10	36 - 47
4	Paul D.	Gates	Anchorage	AK	U.S. Dept. of the Interior U.S. Fish and Wildlife Service	48- 58
5	Buck	Lindekugel	Juneau	AK	Southeast Alaska Conservation Council	59 - 90
6	Eric	Hummel	Ketchikan	AK	Southeast Alaska Conservation Council and Tongass Conservation Society	91
7	Nathaniel	Lawrence	Washington	DC	Natural Resource Defense Council	92 - 100
8	Margaret	Clabby	Ketchikan	AK		101 - 113
9	Richard T.	Myren	Juneau	AK		114 - 116
10	Nicole	Whittington-Evans	Anchorage	AK	The Wilderness Society	117
11	Karen L.	Button	Anchorage	AK	Alaska Center for the Environment	118
12	Kathryn M.	Foxworthy	Ketchikan	AK	Tongass Conservation Society	119 - 124
13	Jack E.	Phelps	Ketchikan	AK	Alaska Forest Association, Incorporated	125 - 130
14	Jennifer R.	Garland	Juneau	AK	State of Alaska, Division of Governmental Coordination	131 - 154
15	Bryan	Bird	Santa Fe	NM	Forest Guardians	155 - 157

Letter #1: Alaska Department of Fish and Game (ADFG), page 1

STATE OF ALASKA

DEPARTMENT OF FISH AND GAME

HABITAT AND RESTORATION DIVISION

TONY KNOWLES, GOVERNOR

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TO: Jennifer R. Garland
Project Review Coordinator
Office of Management & Budget
Division of Governmental Coordination
Juneau

FROM: Bill Hanson
Regional Management Coordinator
Habitat & Restoration Division
Douglas

DATE: July 24, 1998

SUBJECT: Sea Level Timber Sale DEIS

The Alaska Department of Fish & Game (ADF&G) submits the following comments pertaining to the U.S. Forest Service (FS) Sea Level Timber Sale Draft Environmental Impact Statement (DEIS). This project is designed to harvest up to 60 million board feet of old growth timber. The information and recommendations contained herein are intended for use in the interagency development of a consolidated state response.

In a time when the Forest Service has publicly declared a movement away from clearcutting as the predominant method of harvest in the National Forest it appears that clearcutting will be used in 90% or more of the volume in this sale. Figure 2-2 is a histogram showing volume to be clearcut compared to other methods. The DEIS does not appear to include a concise listing of the number of acres to be clearcut compared to other methods by alternative. Without a summary one is forced to go through the unit cards one by one to find out where and how much of the units in this sale will be clearcut.

ADFG
#1

The term "patch cuts" seems to be offered as an alternative to clearcuts in the DEIS, but as described in the unit cards and confirmed by Forest Service staff, patch cuts appear to be simply clearcuts that do not extend to the nominal boundaries of mapped harvest units. Patch cuts also seem to be only proposed for meeting TLMP marten standards and guidelines (see below). This is hard to confirm because one can only find which units are to be patch cut by thumbing page by page through the unit cards. It is discouraging that so soon after the TLMP Revision the Forest Service proposes reverting to the old pattern of relying to such a large extent on clearcutting.

ADFG
#2

This sale also appears to continue the pre-TTRA practice of disproportionate harvest of high volume old growth (tables pg. 3-130). Sixty-five percent of the harvest acres in most alternatives would be in

ADFG
#3

Forest Service Response to ADFG 1:

The selection of clearcutting as the primary method of timber harvest for the Sea Level Project Area was evaluated. It is consistent with the Chief of the Forest Service's direction to reduce the amount of clearcutting on National Forest lands (June 4, 1992 letter to Regional Foresters and Station Directors). For a discussion of how the Project Area addresses the seven points contained in the Chief's letter, see the Silviculture and Timber section of Chapter 3 in the Final EIS. The Project is consistent with the TLMP direction in the type of silvicultural systems used and approximate percentages of harvest in each category. The categories used are: (1) Even-aged Clearcut, (2) Two-aged Clearcut with reserves and Shelterwood with reserves, and (3) Uneven-aged system. The breakdown of acres in each silvicultural system can be found in Chapter 2 of the Final EIS.

Forest Service Response to ADFG 2:

The term "patch cut" as used in this Project represents any opening created to be 2 to 10 acres. There is no relation in its placement with respect to the unit boundary; it may extend to the unit boundary or have deferral between it and the unit boundary. Patch cuts are an even-aged system different from clearcutting in size only. For clarification, the Final EIS has only the three categories of harvest, listed in response to ADFG 1.

Letter #1: Alaska Department of Fish and Game, page 2

Jennifer R. Garland

2

July 24, 1998

the high volume strata, whereas high volume strata make up only 50% of the tentatively suitable acres. This is admittedly a crude measure, but the DEIS offers no more detailed analysis of the effects of the sale on high volume stands in the project area. The reason usually given for focusing harvest in high volume is the need to help pay for road construction. In this project area, however, an extensive road network is already in place. As ADF&G has pointed out repeatedly in the past, high-grading of high volume stands early in the rotation reduces wildlife habitat values prematurely and makes it difficult to offer economic timber sales in future entries.

ADF&G
#3

ACMP CONSISTENCY ISSUES

The Alaska Forest Resources and Practices Act (FRPA) and corresponding Regulations (FRPR) constitute the ACMP standards for federal timber sales. The pertinent standards applicable for evaluating whether the Sea Level timber sale is consistent with the ACMP for the management of fish and wildlife resources are summarized in the paragraphs below. Although the FRPA standards cited reference state forestland, Section 41.17.900. APPLICABILITY specifies:

(b) For federal land,

- (1) the degree of resource protection may not be less than that established by this chapter for state land except that AS 41.17.119 establishes the minimum riparian standard;
- (2) a timber harvest activity subject to this chapter shall satisfy the requirement to be consistent to the maximum extent practicable with the Alaska coastal zone management program if the federal land management plans, guidelines, and standards applicable to that timber harvest activity provide no less resource protection than the standards that are established in this chapter provide for state land except that
 - (A) AS 41.17.119 establishes the minimum riparian standards;

ADF&G
#4

In December 1993, the State Attorney General carefully analyzed the entire FRPA as it relates to ACMP reviews of riparian harvest under federal timber sales and concluded:

the riparian zones must be at least 100 feet, and there must also be a determination that within 100 to 300 feet, the federal requirements for the harvest are at least as restrictive as the state requirement that within 100 to 300 feet the activity is "consistent with the maintenance of important fish and wildlife habitat." AS 41.17.118(a)(2)(B).

Therefore, the sections of the FRPA (and by incorporation, applicable regulations from the FRPR) noted below are part of the ACMP standards for federal timber sales (underlines added):

AS 41.17.060. REGULATORY AND ADMINISTRATIVE STANDARDS.

(b) With respect to state, municipal, and private forest land, the following standards apply:

- (5) significant adverse effects of soil erosion and mass wasting on water quality and fish habitat shall be prevented or minimized.

(c) With respect to state and municipal forest land only, the following standards also apply:

- (1) forest land shall be administered for the multiple use of the renewable and nonrenewable resources and for the sustained yield of the renewable resources of the land in the manner that best provides for the present needs and preserves the future options of the people of the state;

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(3) *to the extent its capacity permits, forest land shall be administered so as to provide for the continuation of businesses, activities, and lifestyles that are dependent upon or derived from forest resources,*

(5) *there may not be significant impairment of the productivity of the land and water with respect of renewable resources;*

(7) *allowance shall be made for important fish and wildlife habitat.*

AS 41.17.118. RIPARIAN STANDARDS FOR STATE LAND.

(a) *The riparian standards for state lands are as follows:*

(2) *on state forest land managed by the department that is located south of the Alaska Range,*

(A) *harvest of timber may not be undertaken within 100 feet immediately adjacent to an anadromous or high value resident fish water body;*

(B) *between 100 and 300 feet from the water body, timber harvest may occur but must be consistent with the maintenance of important fish and wildlife habitat.*

AS 41.17.119. MINIMUM RIPARIAN STANDARDS FOR OTHER PUBLIC LAND. *On other public land, harvest of timber may not occur*

(1) *within 100 feet from the shore or bank of an anadromous or high value resident fish water body that is located south of the Alaska Range;*

It is necessary that the development and implementation of the Sea Level project clearly meet or exceed the standards required in the FRPA.

Unit Cards

The applicable ACMP standards for road location, construction, drainage, bridges, culverts and other water crossing provisions, maintenance, closure, material and disposal sites, rehabilitation after mass wasting, and blasting are found in Article 3 of the Regulations (11 AAC 95.285—95.335). Information required in the detailed plan of operations is described in 11 AAC 95.220 (5), (7), (8), and (9).

Although portions of the unit card information for the Sea Level Timber Sale are adequate, other portions appear incomplete. While the map detail and scale of the unit cards are good, many of the narratives for the unit cards do not contain detailed descriptions of the various resource values within the units. It is difficult for reviewers of these cards to utilize the minimal field information provided to discern what may be significant differences in the various resource values present.

As stated previously, another concern is for Class III streams. All Class III streams (as designated under the 1997 TLMP) shall receive, at a minimum, the measures described in the RIP2.III.F process group management directions. The ADF&G understands that these standards and guidelines allow for "site-specific adjustments to Process group direction," but only after a watershed analysis has been completed, and "only if the objective of the process group can be met." ADF&G shares ADEC's concerns related to the purpose and kinds of "watershed analyses" included in the Sea Level DEIS. The DEIS does not include any watershed analysis which would justify adjustments to the process groups.

ADFG
#4

ADFG
#5

ADFG
#6

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Forest Service Response to ADFG 3:

There are a number of reasons for the amount of timber harvest in the high-volume strata. The TLMP reduced the amount of tentatively suitable lands available for timber harvest in the low- and medium-volume strata by:

- avoiding harvest on forested wetland soils (that make up a large part of the low and medium volume strata),
- avoiding harvest on slopes greater than 72 percent or more,
- avoiding harvest in the Old-Growth Habitat Land-Use Designation (LUD), and
- avoiding harvest in areas of sensitive plant species - protective mitigation methods reduced timber harvest in low-volume strata stands.

Because of the large number of low-and medium-volume strata stands being placed off limits to timber harvest the remaining high-volume strata stands are seeing an increased percentage proposed for harvest. The Tongass Timber Reform Act (TTRA) proportional-timber-harvest direction applies only to timber harvest intended to meet terms of the Ketchikan Pulp Company Long-Term Timber Sale Contract. The direction applied to volume classes 6 and 7, rather than the high-, medium- and low-volume strata referred to in the Sea Level Draft EIS.

Forest Service Response to ADFG 4:

The standards and guidelines, Best Management Practices (BMPs), and mitigation measures described in the Final EIS and in the TLMP, meet or exceed the enforceable policies of the Alaska Forest Resources and Practices Act and its implementing regulations. That determination is found in the Record of Decision (ROD) and is under review by the State of Alaska.

Forest Service Response to ADFG 5:

The best available up to date information is displayed on each unit and road card in the ROD Appendices. Written descriptions for resources are shown only where there is a concern or where specific corrective direction is required. Additional information and detail is included in the Final EIS.

Forest Service Response to ADFG 6:

The TLMP Riparian Standard and Guidelines will be applied in all watersheds on the Project Area. They are sufficient to maintain and protect fish habitat and provide for sport and commercial fisheries and subsistence. No reductions to Riparian Management Area (RMA) buffers are proposed except in Unit 133. A site-specific watershed analysis for Sea Level Creek, which meets the requirements set forth by Appendix J of the TLMP, can be found in the Sea Level planning record.

Forest Service Response to ADFG 7:

Road condition surveys have been conducted for roads in the Project Area and corrective measures for problems have been proposed. These corrective measures will be implemented in the Project Area regardless of which alternative is selected for implementation. Road-condition monitoring and implementation monitoring is an ongoing process.

Forest Service Response to ADFG 8:

The relocation of the old-growth reserve at Mop Point (Value Comparison Unit (VCU) 7560) to the vicinity of Units 171 and 172 (south of Gnat Cove) is in our Selected Alternative (Alternative 7) for the Final EIS. The effects of this relocation have been analyzed in the Final EIS. An interagency group of biologists from the ADF&G, the U.S. Fish and Wildlife Service, and the Forest Service, reached consensus on this new location during a field review on 6/10/98. This process is part of the implementation of the TLMP (1997) as directed in the TLMP ROD (1997).

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Roads

The applicable ACMP standards for road location, construction, drainage, bridges, culverts and other water crossing provisions, maintenance, closure, material and disposal sites, rehabilitation after mass wasting, and blasting are found in Article 3 of the Regulations (11 AAC 95.285—95.335). Information required in the detailed plan of operations is described in 11 AAC 95.220 (5), (7), (8), and (9).

Chapter 3 describes the transportation system for this timber sale area:

There are approximately 321 miles of Forest Service roads on Revilla Island, 158 miles of which are within the Project Area... From 1990 to present, approximately 86 miles of local roads have been constructed... There are approximately 8.6 miles of traffic service level D. All new road proposed for each alternative will be constructed as traffic service level D.

ADFG
#7

Travel service level D is prescribed under Maintenance Level 1. This allows roads to revegetate naturally while drainage is maintained to keep the roadbed from eroding; drainage structures are either removed or kept open to allow cross drainage of the roadway. The summary of the transportation system indicates that approximately 149.4 miles of the road system within the project area are maintained at Maintenance Level 1.

We question the extent to which Maintenance Level 1 has been achieved and is consistent with the state's standards referenced above. Due to the lack of a field presence by our staff within this particular project area during the past decade, however, this is an issue that we desire to learn more about before the FEIS and ROD are released for the Sea Level project.

According to Table 5 on page 3-244, eleven fish passage failures were recently documented by the Forest Service in a road condition survey within the Shoal Cove area. This survey reportedly covered 47 miles of the 70 miles of roads existing on the Shoal Cove road system. Table 8 (page 3-247) indicates a total of 18 stream crossing structures scheduled for repair or replacement on the Shoal Cove road system in the preferred alternative.

We would like to conduct field visits with the Forest Service to evaluate the adequacy of the site-specific information contained within the Sea Level DEIS prior to further comment regarding the issues and concerns associated with fish passage and instream activities

Wildlife Corridors and Old-growth Blocks

VCU #7560: We recommend relocating the small Old Growth Reserve from Mop Point to Units #171 and 172. The reasons for doing this would be (a) protection of quality habitat, (b) an improved connective corridor between Carroll Inlet and Thorne Arm, (c) reduced wildlife viability risks on the Thorne Arm peninsula, and (d) the uncertain status of overselection in the Old Growth Reserve to the south.

ADFG
#8

Forest Service Response to ADFG 9:

In the Final EIS, Alternatives 5 and 7 do not propose harvesting Units 127, 128, 139, and 140. Alternative 2 proposes harvesting these units. The harvest of Units 127, 128, 139, and 140 is consistent with Forest-wide Standards and Guidelines. These units are not included in the Final EIS Selected Alternative.

Forest Service Response to ADFG 10:

An interagency group of biologists from the ADF&G, the U.S. Fish and Wildlife Service, and the Forest Service, recommended dropping these units to maintain connecting corridors. Alternative 2 in the Final EIS still contains Units 59 and 60. The Final EIS Selected Alternative does not propose harvesting these units. A new corridor has been identified in the Selected Alternative that results in dropping Units 173 and 174.

Forest Service Response to ADFG 11:

The small old-growth habitat reserve at Mop Point (VCU 7560) has been moved to the vicinity of Units 171 and 172 (south of Gnat Cove) in our Selected Alternative. One of the reasons for recommending the relocation of the small old-growth habitat reserve was to preserve options in case the encumbered lands in the Carroll Point Old-Growth Habitat Reserve are ever conveyed (see also Response to Comment ADFG 8).

According to the Tongass Plan Implementation Team (TPIT) clarification, "the project level decision will consider and document the environmental effects and risks associated with the possible future conveyance." We have displayed this information in Chapter 3, Old Growth and Biodiversity Section, under Effects of Alternatives on Viable Populations of Wildlife. The TPIT clarification also directs the Forest Service to work in cooperation with the U.S. Fish and Wildlife Service and the ADF&G to evaluate the remaining viability strategy when selections are submitted to the Bureau of Land Management for conveyance.

The issue of relocating the Carroll Point Old-Growth Habitat Reserve is beyond the scope of this Project. The TLMP old-growth habitat reserve strategy provides for viable populations of old-growth dependent species, including the American marten. The TPIT clarification provides for adjustments to small old-growth habitat reserve locations, but does not provide for relocating medium old-growth habitat reserves.

Forest Service Response to ADFG 12:

An analysis has been added in the Wildlife section in the Final EIS to show effects of this Project after the units reach the canopy closure stage. This is shown in the Final EIS as the effects on habitat capability at year 2045.

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VCU #7552: Units #127, 139, and 140 should remain intact to provide a better wildlife corridor from Sea Level Creek into Misty Fjords. None of these units, however, are included within the preferred alternative.

ADFG
#9

VCU #7530: The logging of Units #59, 60, and 5 should be avoided to better protect a wildlife corridor between Shoal Cove and Fish Creek in Misty Fjords. Units 173 and 174 should be deleted to preserve a wildlife corridor from Gnat Cove to Thorne Arm, consistent with the recommendations provided for VCU #7560.

ADFG
#10

As with the Chasina project, this one has OGR lands that are encumbered by ANCSA overselections. The Carroll Point medium OGR that would be made completely unpracticable by conveyance of these overselections, leaving it 4,000 acres of POG shy of present composition (DEIS pp 3-76,77). Failure to retain replacement acres for these encumbered lands threatens the FS old growth strategy. ADF&G opposes harvest of substitute lands until the ultimate dispensation of encumbered lands in OG habitat LUD is resolved. This project area has been highly fragmented by previous logging and very few options remain now for substitute OG habitat. Additional logging in remaining unfragmented old growth would make finding substitute OG habitat problematic.

ADFG
#11

The Carroll Point medium OGR does not appear to meet TLMP criteria. TLMP criteria call for medium OGRs to have a minimum of 10,000 acres and a minimum of 5,000 acres of POG and 2,500 acres of high volume POG. The intent of the TLMP guidelines was to have old growth habitat concentrated so that it would function as a block of old growth habitat. Carroll Pt. old growth is not concentrated. The FS had to make Carroll Point 20,000 acres to get 6,300 acres of POG of which only 1,330 appears to be high volume POG (see Appendices to Appendix N of FEIS TLMP Revision). We believe the Forest Service needs to review the composition and size of the Carroll Point medium old growth habitat reserve to determine if it meets the intent and letter of the TLMP guidelines. It appears to us the reserve will need to be moved to a more concentrated block of old growth that contains more high volume. Moving it may also address the overselection issue.

Deer

The DEIS underestimates the direct effects of this sale on deer habitat capability. The table on pg. 3-182 displays the effects on deer habitat immediately after logging, but does not show the subsequent effects on deer habitat after canopy closure 30 years later. The decline in habitat capability from canopy closure is the greatest concern we have about logging's effect on deer and it is an inevitable consequence of this sale. It needs to be shown in the EIS.

ADFG
#12

Wolves – The DEIS admits that deer density in parts of the project area are below that recommended by Person et al. (1996) yet proposes to reduce that density further. It estimates deer density as a result of Alternatives 2 and 3 on page 3-179 but not for the other action alternatives. In Wildlife Analysis Area 406 deer density is 13 deer per square mile, considerably below the 18 per square mile recommended by Person et al. for having a high probability of maintaining viable wolf populations. The DEIS appears to imply that because pre-logging deer density was never as high as 18 deer per square mile reducing it further is not a concern. Despite proposing to further reduce deer density and raise the risks that viable wolf populations may not be maintained, the Forest Service does not propose

ADFG
#13

Forest Service Response to ADFG 13:

The Final EIS shows deer-habitat capability to be above that recommended by Person (1996), but it will be reduced if some of the action alternatives are implemented. The Selected Alternative will reduce the deer-habitat capability in the Project Area and the associated Wildlife Analysis Areas (WAAs), but it will not affect viable wolf populations. Viable wildlife populations (including wolves) are not based on Project Area habitat-capability projections, but on Forest-wide conditions. The TLMP contains a viable-population strategy that will maintain viable wildlife populations. This Project maintains the risk level shown in the TLMP analysis by implementing TLMP standards and guidelines and the viable-population strategy.

Wildlife viable-population monitoring is a Forest-wide effort being dealt with by the Interagency Monitoring and Evaluation Group (IMEG) of which the ADF&G and the U.S. Fish and Wildlife Service are cooperating members.

Forest Service Response to ADFG 14:

The Subsistence section in the Draft and Final EIS contains a discussion of harvest data and a comparison to habitat capabilities. The discussion points out that as demand increases for huntable wildlife, and as habitat decreases, the demand may exceed supply. However, habitat capability will exceed demand through year 2045. Based on projected future demand, there will not be a significant possibility of a significant restriction for subsistence use of deer, bear, marten, and wolves.

A discussion was added to the Wildlife Section in Chapter 3 (Environmental Consequences, Effects on Future Hunting Opportunities), as suggested, to illustrate the possibility of loss of hunting opportunities as an effect of this Project. One must realize, however, that habitat capability does not easily convert to population viability. Wildlife populations, and therefore hunting opportunities and hunting success, are also dependant on other factors such as weather, fecundity rates, and predation; populations may vary from year to year depending on these factors. The current bag limits for sport hunting within the Project Area for deer and wolves are four deer per hunter and five wolves per hunter.

Forest Service Response to ADFG 15:

The TPIT has provided guidance on implementing the TLMP Marten Standards and Guidelines (TPIT 1998). The TPIT recommendations say: "In harvest units exceeding 2 acres in size, a more uniform dispersion of retained forest structure was intended. In some cases, clumping of retained structure in essentially unharvested patches may be preferable for ecological opportunities or operational concerns." They go on to list some reasons clumping may be preferable. We used this clumping method or partial cutting or a combination of the two methods, in all units in VCU 7560 containing high-value marten habitat.

Where clumping was used, we followed the TPIT recommendations, only applying it to that portion of the unit in high-value marten habitat. We tried to use a 1:1 factor for stand structure retention (TPIT Clarification, Goshawk and Marten Standards and Guidelines, Item E.2) in the Draft EIS. The Draft EIS included some units in VCU 7560 that didn't meet the intention of the standards and guidelines as recommended by the TPIT. In these cases, clumping was used and there was not a 1:1 factor for stand retention. These units have been changed in the Final EIS to more accurately adhere to the TPIT recommendations.

The clumped method was used for operational and safety concerns. Operationally, the 16-inch-and-greater diameter definition of overstory canopy precludes the use of individual-tree-selection (ITS) systems in most stands. Canopy closure of those trees meeting this definition is usually only about 30 percent to 40 percent in existing stands. It becomes economically infeasible and operationally unsafe to remove those few trees and still meet the standards and guidelines.

The TPIT clarification also says "When clumping is utilized for ecological or operational concerns, clumps should be dispersed throughout the harvest unit. In addition to the average of over 30% canopy closure retained in clumps, retain 10% or more of the original stand structure in the openings between clumps." (Goshawk and Marten Standards and Guidelines, item C.2). This will be attained by retaining sub-merchantable timber and larger unmerchantable timber between clumps.

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any monitoring of wolves or deer in the project area to determine if wolves are affected by its actions. The DEIS states that maintaining corridors to Misty Fjords National Monument will allow for migration of wolves to the study area to replace those who starve. The Forest Service does not commit to effectiveness monitoring of the proposed corridors to determine if they are actually functioning as claimed. We believe monitoring of logging effects on wolves and other species of concern is essential for all projects like Sea Level which increase risks to the maintenance of viable populations.

ADFG
#13

At some point, if habitat reduction continues, restrictions on hunting and trapping may be necessary to insure viability of wolves, marten, and other wildlife. The direct link between possible loss of hunting and trapping opportunity and increased resource development needs to be made clearly in the EIS.

ADFG
#14Marten

We have concerns that the sale as proposed does not apply the TLMP marten standards and guidelines appropriately. The method proposed for retaining canopy in high value marten habitat appears to be patch cuts. Patch cuts appear to be clearcuts within harvest unit boundaries that leave up to 30% of the trees within the unit. This method does not appear to meet the requirement of the guideline that the retained canopy be distributed evenly throughout the harvest unit. The intent of the marten standard and guideline is to use a different method than clearcutting for harvesting. Sea Level may propose smaller areas of clearcut than planned but they are clearcuts all the same. The figure on page 3-174 shows how high value marten habitat would be treated in VCU 7560 where over 33% of productive old growth is harvested. There stricter harvest standards and guidelines are supposed to be used to protect marten habitat and 30% of canopy is to be maintained. The figure appears to indicate that in Alternatives 4 and 5 no canopy retention is proposed for acres of high value marten habitat that are cut. It appears that harvest prescriptions need to be changed in this VCU to comply with TLMP.

ADFG
#15Band-tailed Pigeons

Coastal band-tailed pigeons occur (and probably breed) within the southern extreme of Southeast Alaska. On June 8, 1998, approximately four pairs of band-tailed pigeons were observed west of Unit #89 near the switchbacks across from Shelter Cove. The exhibition of courtship behavior at this time of year indicates potential breeding and nesting sites may exist in this vicinity or elsewhere within the project area. Although band-tailed pigeon nesting on the Tongass is not documented within the literature, it is suspected to occur in some localities, such as on Revilla Island and the Cleveland Peninsula.

ADFG
#16

Band-tailed pigeons typically have low productivity, but a high fidelity to forested nesting sites. Research has shown that most immature band-tailed pigeons return as breeding adults to the general area where they were reared. In the coastal population, which is one of only two populations within North America, these active nesting areas are oftentimes in places that are scheduled for timber harvest. Breeding survey data from 3 studies indicate that coastal band-tailed pigeon populations during the past 15-30 years have declined substantially. The potential exists that viability risks for Alaska-breeding band-tailed pigeons, which appear to reproduce in the extreme southern portion of the Tongass National Forest, could be high. If, for example, band-tailed pigeons are not already breeding

Forest Service Response to ADFG 16:

A discussion on band-tailed pigeons has been added to the Biological Evaluation (Appendix C) in the Final EIS under Other Species of Concern. None of the alternatives propose timber harvest where band-tailed pigeons were observed. Units 88, 89, and 90 are within a mile of the sighting but are not expected to affect band-tailed pigeons.

Forest Service Response to ADFG 17:

The Forest Service used the best available information in estimating timber supply and demand in the TLMP. These are however, only estimates, based upon Forest-wide timber inventories, which are verified at the Project level when more detailed timber stand exam and cruise data are obtained in the field. Currently the Tongass National Forest is updating the Continuous Forest Inventory (CFI). Data from this inventory will soon be available to help refine and more accurately identify, the suitable timber base at the Forest level. The TLMP monitoring plan requires a review of the assumptions made in determining the Allowable Sale Quantity every 5 years, at a minimum. The ADF&G is a cooperating member of the IMEG that will help perform that analysis.

Forest Service Response to ADFG 18:

You are correct and it has been moved to its proper location; however, the Snipe Point log-transfer facility (LTF) is not proposed for use.

Forest Service Response to ADFG 19:

The environmental-effects analysis for the Draft EIS did take into consideration the effects of timber harvest on Cape Fox lands within the Sea Level Project Area. See the Sea Level Draft EIS Chapter 3, pages 3-79 through 3-91.

Forest Service Response to ADFG 20:

The Forest Service appreciates site-specific comments from the public that have pointed out inaccuracies with maps presented in the Draft EIS. All maps accompanying the Final EIS use the most current information available and correct all site-specific errors identified from field reconnaissance and from public comments. The ROD will contain a color map of the Selected Alternative.

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in areas protected from logging, but lose breeding habitats within areas being logged, they may not readily colonize or maintain reproduction in the unlogged areas set-aside in old-growth reserves. These viability concerns were not adequately addressed within the TLMP Revision, nor is the issue discussed within the Sea Level DEIS. Adequate surveys and research should be conducted to assure that timber harvest projects will not risk band-tailed pigeon viability on the Tongass.

ADFG
#16**NEPA COMMENTS**Long-term Sustained Yield

As in past NEPA reviews of Forest Service timber sales, we continue to be concerned that timber availability figures established within the forest plan (TLMP) might overestimate the actual timber supply existing within site-specific project areas. If this continues to occur in new sale areas, as it has in the past, it would appear there is a need to develop better information supplemental to TLMP. The objective of this would be to more accurately identify the actual suitable timberland component at both the forest-wide and individual project levels. It is critical to avoid unrealistic expectations for achieving timber harvest levels, which might not be sustainable over the long-term.

ADFG
#17Other Comments

The LTF shown on the DEIS maps in VCU #7570 is probably mislocated. It appears this LTF should be depicted on the shoreline across from Snipe Island in VCU #7560.

ADFG
#18

The cumulative impact assessments within the DEIS may be different if all of the previous cutting within the project area is taken into consideration. This would include areas logged by the Cape Fox Corporation on their lands adjacent to Forest Service lands. Additional logging within certain VCUs may need to occur under the selective harvest guidelines specified within the TLMP.

ADFG
#19

The Preferred Alternative Map was inadequate in size and clarity to easily review and understand. We recommend that anytime a preferred alternative is selected for an EIS such as this, the map representing such an alternative be reproduced in the same size scale and colors as the unit pool map. This would assist respondents to an EIS in reviewing a more readable product. It would also help the FS by focusing external review efforts on the preferred alternative.

ADFG
#20

Thank you for the opportunity to provide comments on the Seal Level DEIS.

cc: Scott Marshall, ADF&G CFMD, Douglas
Rocky Holmes, ADF&G SF, Douglas
Bob Schroeder, ADF&G Sub, Douglas
Kim Titus, ADF&G WC, Douglas
Jack Gustafson, ADF&G H&R, Ketchikan
Kevin Hanley, DEC, Juneau
Nevin Holmberg, FWS, Juneau
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TONY KNOWLES, GOVERNOR

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July 23, 1998

Mr. Pete Griffin
Ketchikan Ranger District
Tongass National Forest
3031 Tongass Avenue
Ketchikan, Alaska 99901

Dear Mr. Griffin:

The Department of Environmental Conservation appreciates the opportunity to review the Draft Environmental Impact Statement (DEIS) for the Sea Level Timber Sale on Revillagigedo Island. Specifically, this sale proposes to harvest approximately 60 MMBF of timber from an estimated 2,500 acres, and to construct up to 65 miles of new road, and reconstruct up to 23 miles of existing road. Associated with this project is the use of the existing permitted log transfer facilities (LTFs) at Shelter Cove, Shoal Cove, and Elf Point. Any modifications to these facilities will undergo separate Alaska Coastal Management Program (ACMP) consistency reviews, and will be subject to ADEC Certificates of Reasonable Assurance (401 Certifications).

The DEIS identified Alternative 3 as the Forest Service's preferred alternative for this project. This alternative proposes to harvest approximately 42 MMBF of timber from an estimated 1,620 acres, and would involve the reconstruction of 18 miles of existing road and the development of 39 miles of new specified road. In addition, all three of the LTFs would be used under this alternative.

We offer the following NEPA, Clean Water Act (CWA) Section 319, and preliminary ACMP consistency comments for this project. The State's official consolidated ACMP comments will be submitted at a later date.

NEPA & CLEAN WATER ACT SECTION 319 COMMENTS

I.) SEA LEVEL TIMBER SALE CONTRIBUTION TO THE TONGASS-WIDE ALLOWABLE SALE QUANTITY (ASQ)

As stated in the Forest Plan (Timber Standards and Guidelines, page 4-94), *"The Allowable Sale Quantity is a ceiling; it is not a future sale level projection or target and does not reflect all of the factors that may influence future sale levels"* (emphasis added). This point was also emphasized by the Regional Forester at several public meetings and media events after the TLMP ROD was

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KETCHIKAN DISTRICT	
MISTY F/W	
RECEIVED	
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REC/WILDNS	
MISTY F/W	
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FISH/WLOF	
REC/LANDS	
SEA	
S.E.S.	
TIMBER	

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#1

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Pete Griffin

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July 23, 1998

signed. However, according to Appendix A of the DEIS, the proposed volume for this timber sale was arrived at for the specific purpose of contributing to and meeting the Tongass-wide ASQ. Specifically, Appendix A (page A-6) states *"This analysis represents one scenario for meeting the average annual ASQ of 267 MMBF. Obviously, there can be other scenarios which harvest either more or fewer acres in the Project Area and still attain the ASQ"* (emphases added). In addition, Table 2 in the appendix displays the very detailed Tongass National Forest timber sale schedule (a "future sale level projection") and the targeted sale-specific volumes that are proposed to meet the ASQ. Consequently, the rationale used for arriving at the proposed volume for this timber sale directly contradicts the Forest Plan and the public statements made by the Regional Forester regarding ASQ-targeted timber sale volumes.

ADEC
#1

As demonstrated during the administration of the Long-term Timber Sale Contract, such target-driven sale volumes leave little flexibility in determining the amount and location of timber harvesting within individual project areas, particularly within those areas designated by TLMP as development LUDs (e.g., Timber Production, Modified Landscape, Scenic Viewshed). We raise this issue due to experiences that we have had with other recent timber sales, in which we were told that because the Forest Plan designated a particular area as a development LUD, it had to be entered during the respective timber sale and that the volume from the area was necessary in order to meet the purpose and need (contributing to the ASQ) of the project. Later in these comments, we are requesting that timber harvesting be deferred within the Sea Level Creek watershed, and hope that the flexibility exists to accommodate this request.

II.) WATERSHED ANALYSIS**A.) Adjustments to Class III Process Group Standards and Guidelines**

According to the Watershed Report (Appendix D, Page 36), *"Harvest unit recommendations for protection of fish and water resources is located on each unit card"* (sic). As indicated on the unit cards, with the exception of an unbuffered HC5 channel in Unit 153, all Class III streams are proposed to be protected by slope break buffers per the direction of TLMP Standard and Guideline RIP2.III.E. However, in several places, the DEIS indicates that these Riparian Management Areas (RMAs) may be adjusted to permit harvesting within some of these Class III buffers. Specifically, according to the DEIS (page 3-22), *"Based upon watershed analysis to the site level ..., timber within Class III RMAs may become available for timber harvest and be converted from unsuitable to suitable forested lands."* However, no such site-level analyses have been completed for any of the watersheds in the Project Area. Additionally, in referring to Table Aquatic-5, the DEIS (page 3-22) states *"The acreage displayed in the class III column reflects an estimate of acreage that could be adjusted upon further site refinement of RMA delineations."* Also, the boilerplate statement in the Major Watersheds discussion (pages 3-28 through 3-30) indicates that process group buffers may not be implemented on some unknown number of Class III streams within many of the watersheds in the Project Area: *"There may be occasion in this watershed where reduction of RMA standard and guideline buffers along class three streams would not adversely affect the quality of fish habitat."*

ADEC
#2

Apparently, the decision on which streams will not be buffered will occur at some unknown time in the future as, according to page 3-26, *"Recommendations are that RMA Standards and Guideline buffers should be adjusted only where there will be no increase in risk to fish habitat or other RMA*

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functions within Project Area watersheds.” Since these streams or areas have yet to be identified, we can only assume that at this stage in the planning process, insufficient site-specific, field-based information exists to make this determination. Consequently, we are unable to determine if and where the process group Standards and Guidelines will not be implemented. However, according to the Watershed Report (pages D-2 and D-3), only landscape-level and watershed-level analyses have been completed for this project. Therefore, without completing site-level watershed analyses, all recommendations for adjusting any of the Class III process group buffers within this Project Area are unwarranted, as the Forest Plan requires this level of analysis prior to making such adjustments. If adjustments actually are proposed, then a complete watershed analysis, including all site-level analyses, should have been completed prior to the release of the DEIS so that reviewers would have had the opportunity to comment on any adjustments being proposed.

In addition, the DEIS appears to misinterpret the purpose of conducting a site-level watershed analysis. Specifically, the DEIS (page 3-13) states “*Watershed-level analyses are provided for the principle Sea Level Project Area watersheds. Additional site-specific analysis is used to address the potential delivery of sediment from class III to class I and II streams. The intent of this site-specific analysis is to determine where protection of headwater areas is required to reduce the risk of downstream impacts to fish habitat*” (emphasis added). However, the Forest Plan automatically requires the protection of such headwater Class III streams through the implementation of the process group Standards and Guidelines (RIP2.III.E). Consequently, the “*site-specific analysis*” which the DEIS refers to is actually done to determine if and where the full implementation of the Standards and Guidelines is not necessary to reduce the risk of downstream impacts to fish habitat. However, no such site-specific analyses were completed. In addition, although the DEIS states that watershed-level analyses are provided for the principal watersheds in the Project Area, this level of analysis was only applied to the Painted Creek and Sea Level Creek watersheds; the other 42 watersheds that are described in Appendix D were analyzed at the landscape-level. Therefore, this statement is misleading.

ADEC
#2

B.) Insufficient Field Review

Although the DEIS indicates that Basin Wide Surveys were performed to document the distribution of fish habitat within the Project Area, from the information presented in the individual watershed reports (Appendix D), it is apparent that up to 21 of the total 44 watersheds were not inventoried in the field but, instead, were analyzed using GIS data. This lack of field review is evident by the statements “*The ADF&G stream catalog shows ...*” and “*The GIS layer identifies ...*” Consequently, no site-specific assessment of stream channel conditions or riparian vegetation has occurred within these watersheds. This is significant as, according to the reports, ten of these watersheds will exceed 20 percent of their respective watershed acres consisting of second growth less than 30 years old. Specifically, these include:

D91A (Licking Creek)	24% cumulative harvest
E13A	31% cumulative harvest
I15A	45.5 % cumulative harvest
D87A (Marble Creek)	31% cumulative harvest
D96A (Easy Creek)	30% cumulative harvest
EY3A (Gnat Creek)	57% cumulative harvest
E48A	23% cumulative harvest

ADEC
#3

Forest Service Response to ADEC 1:

The TLMP establishes management standards and guidelines for the Tongass National Forest which guides all natural resource management activities. The Sea Level Project describes a range of alternatives for implementing the TLMP and does not contradict it. Attainment of the TLMP Allowable Sale Quantity is not the purpose of the Sea Level Project; providing a timber supply to meet demand and thereby contribute to community stability is an objective.

Forest Service Response to ADEC 2:

See the Forest Service Response to ADFG 6. This Project applies TLMP Riparian Standard and Guideline management direction for stream process groups including the adjustment to Harvest Unit 133.

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E71A 32% cumulative harvest
EZ9A 25% cumulative harvest
FA4A 36% cumulative harvest

While we are unable to determine if adjustments will be made to the process group Standards and Guidelines on the Class III streams in these watersheds, according to the Major Watersheds discussion in the DEIS (page 3-29), for Easy Creek (D96A), *"There may be occasion in this watershed where reduction of RMA standard and guideline buffers along class three streams would not adversely affect the quality of fish habitat."* However, as indicated above, without conducting a field-based (site-level) watershed analysis, this recommendation is not valid, nor does it meet the direction of Appendix J of the Forest Plan which requires a *"more intensive, complex, and field-based"* analysis for watersheds with *"more than 20% of the watershed acres with trees in second growth younger than 30 years"* (emphasis added). This required level of analysis is also discussed in the draft Watershed Analysis Handbook (page 3) which states that *"Watershed analysis can be done to provide a basis for adjusting the application of TLMP Standards and Guidelines in a project area. Since Standards and Guidelines were developed from field data, field evaluation is needed to adjust them. Data resolution at the landscape-level or watershed level is not fine enough to justify such an adjustment. Only a field-based (site-level) watershed analysis is sufficient to allow for adjusting the application of a Forest Plan Standard and Guideline."* Consequently, such a field-based watershed analysis is required prior to making adjustments to the Class III process group buffers within this watershed and all others in the Project Area.

ADEC
#3

In addition to the apparent lack of field review within 21 of the 44 watersheds that were analyzed and discussed in Appendix D, the DEIS (page 3-22) states that *"Based on initial site visits, it is likely that 50 percent more [Class III] streams will be found on the ground than are shown on existing inventories."* If this is the case, then it raises significant doubts concerning the validity of the watershed analysis, as drainage density is a key parameter in the Sediment Risk Assessment model, and is used as an indicator of drainage efficiency or sediment transport. Consequently, until these additional streams are verified in the field and included in the analysis, the outputs of the model can only be viewed as suspect.

ADEC
#4

C.) Watershed Reports

According to Appendix D (page D-2), the watershed report that was prepared for this DEIS *"will provide a strategy and site-specific recommendations to provide for long-term stability of riparian, channel, and fish habitat conditions."* However, with the exception of the proposal to helicopter log units in the Gunsight Creek watershed, and the recommendations concerning road construction and buffers within the Painted Creek and Sea Level Creek watersheds, no such strategy or site-specific recommendations are provided in the individual watershed reports. For the most part, they are merely summaries of information derived from the apparently incomplete Basin Wide Surveys and the GIS-based Sediment Risk Assessment model. In particular, it is not clear as to how or whether the watershed analysis influenced the design, location, and extent of proposed road construction and timber harvesting within the watersheds of the Project Area. As an example, the report for the Whistler Creek watershed (page D-23) states that *"The depositional channels of this watershed start at approximately 980 feet up the mainstem. This means that any sediment transported has a high potential of settling in this area."* However, no discussion is provided which explains how the design and location of the proposed units and roads in the watershed will mitigate this concern.

ADEC
#5

Forest Service Response to ADEC 3:

See Forest Service Response to ADFG 6. The TLMP standard and guideline management direction for stream process groups will be adhered to for Class III streams. Paragraph B found on page J-1 of the TLMP states that watershed analysis is required only where adjustments are made in the implementation of TLMP standard and guideline management direction for stream process groups. This Project proposes adjustments of TLMP standard and guideline process group management direction in one harvest unit (Unit 133) located in the Sea Level Creek (E79A) watershed.

Forest Service Response to ADEC 4:

The sediment risk assessment model only displays risks of sediment yield and deposition, relative to other watersheds that are modeled. The outputs described in the Aquatic Resources section in Chapter Three of the Sea Level Draft EIS are quantitative measures of watershed morphology and disturbance which help to identify and rank areas according to potential for sediment production and deposition. They do not provide yield estimates, sediment discharge estimates, route sediment, nor identify impact thresholds. They do indicate the location and potential significance of sediment sources and depositional areas within the watershed based on measured characteristics known to correlate with sediment transport and deposition. It is important to note that these are relative rankings of areas within a watershed, not absolute levels of sediment production nor risk. The levels of risk described in this report are relative within the Project Area watersheds. This does not necessarily translate into an unacceptable level of risk for the decision-maker.

Forest Service Response to ADEC 5:

The Watershed Analysis characterizes the watersheds based on common attributes. The Watershed Analysis characterizes each watershed based on the seven of eight core topics. The Watershed Analysis takes into account comments from other agencies. An interdisciplinary process evaluated the watersheds in the Project Area to estimate the response of soil and water resources to proposed timber harvest and transportation alternatives and activities. This evaluation resulted in location of units and roads and design of harvest systems and settings. Project alternatives were developed to minimize or defer timber-management activities in the most sensitive areas. Additional evaluation has been made using the most current soil and water resource surveys, site-specific information, and on-the-ground review. Best Management Practices and TLMP standard and guides are applied in all watersheds, except Unit 133 of watershed E79A. The TLMP standards and guidelines are designed to assure maintenance and function of all channel process groups regardless of stream class.

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In addition, the information presented in the reports does not include the minimum amount of "products" that the Forest Plan intended to be addressed in a watershed analysis. Specifically, TLMP Appendix J (page J-2) states "*Watershed analysis, at a minimum, will identify and describe aquatic and riparian resources, physical watershed characteristics and relevant issues. Products include:*

1. *Sediment risk analysis*
2. *Description of forest vegetative structure by size and age class*
3. *Identification of stream classes and aquatic species*
4. *Description of aquatic values and uses*
5. *Channel type inventory*
6. *Identification of Riparian Management Areas*
7. *Total miles of road and number of stream crossings*
8. *A description of the potential cumulative risks to aquatic resources resulting from past management disturbances*

ADEC
#6

Although not as detailed, these products are very similar to those listed on pages 17 and 32 of the draft Watershed Analysis Handbook for landscape-level, watershed-level, and site-level analyses. Specifically, those products that were not provided in the reports include:

Identification of Riparian Management Areas: Although the VCU maps display "implementation" buffers for Class I and II streams (and lakes), the RMAs for Class III streams are not shown and are not discussed in the individual watershed reports. They are also not depicted on the unit card maps. This is a significant omission, especially for those watersheds in which the DEIS (pages 3-29 and 3-30) suggests that the process group buffers may be adjusted. In addition, for Core Topic 3 (vegetation), the draft Watershed Analysis Handbook identifies the percentage of Class I and II streams that have been harvested to the stream bank as a basic component of landscape-level, watershed-level, and site-level watershed analyses. However, this information was not included in the reports. Rather, the reports merely indicate the miles of Class I or II streams that pass through units that were harvested prior to the passage of TTRA; no indication is provided concerning the amount of harvesting to the stream bank. In fact, no implications of this pre-TTRA harvesting are discussed at all.

ADEC
#7

Number of stream crossings: Although an important consideration in a watershed analysis, this basic information was not included in the reports and does not appear to have been factored into the analysis, as no mention is made of stream crossings. However, the draft Watershed Analysis Handbook (pages 5 through 7) identifies the density of roads and stream crossings as a critical element that should be addressed in a watershed analysis, including the cumulative effects analysis (pages 17 and 31).

ADEC
#8

A description of the potential cumulative risks to aquatic resources resulting from past management disturbances: Although most, but not all, of the reports indicate the miles of existing and proposed roads, and the percentage of existing and proposed harvesting, no discussion is presented regarding the effects (both current and projected) of these cumulative activities on watershed processes and conditions, including runoff timing and yield, and stream channel stability, substrate composition, and fish habitat conditions. In other words, no Cumulative Watershed Effects (CWE) analysis has been completed. This omission is particularly noteworthy given the extensive harvesting that has

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#9

Forest Service Response to ADEC 6:

The Watershed Analysis uses a consistent format to characterize each watershed. It addresses eight core topics. The basic components of seven of the core topics (listed in the Watershed Analysis Handbook) are included in each watershed characterization. If information for a given core topic, such as habitat or species, is not available, this is stated in the Final EIS. In all cases the best available data was used for analysis. The Forest Health and Ecological Landtypes sections, found in Chapter 3, further address the natural disturbance core topic at the landscape level. The sediment risk analysis at the watershed level analyzes only the Painted and Sea Level Creek watersheds. See also the Forest Service Response to ADEC 2.

Forest Service Response to ADEC 7:

The RMA maps are used in the analyses for Class I, II, and III streams. Because of the variation in sideslope buffers widths on Class III streams, they will not be displayed until the channel type and stream classes within the units can be verified. Since the Draft EIS was released, we classified, measured, protected, and mapped streams on approximately 90 percent of the units in the Selected Alternative to more accurately delineate the RMA buffers on Class III streams. The Final EIS unit cards accurately show the RMAs and Class IV streams as measured. The RMA stream buffers are electronically projected, for the remainder of the units, where ground verification is lacking.

The Aquatic Resources section in Chapter 3 of the Final EIS shows the RMA harvest history by decade for each VCU. The RMA prescriptions maintain ecological function and process. The basin-wide surveys included a stream-bank harvest variable as a disturbance parameter to identify streambank harvest in Class I and II RMAs. Restoration plans for the Project Area include vegetative manipulation within Class I and II RMAs (see also Appendix E, Recommended Sale Improvement Plan, Nonessential section). Resources and funding availability for this effort remains unknown. The type of channel process group will dictate priority of work. For example, floodplain and moderate-gradient mixed-control process groups would receive higher priority than high- or low-gradient contained process groups. Figure Aquatic Resources-1 (Chapter 3, Final EIS) shows the amount of RMA by stream class for each VCU, which has vegetative manipulation planned.

Forest Service Response to ADEC 8:

Chapter 3 contains information about road crossings addressed at the landscape level. The Watershed Report of the Draft EIS did include the amount of road density in each watershed and was factored into the analysis. Projected restoration and maintenance for stream crossings are included in the Final EIS. Projected road and stream crossing maintenance has been identified in Road Condition Survey Data located in the Sea Level planning record.

Forest Service Response to ADEC 9:

See Forest Service Response to ADFG 6. This Project applies the TLMP Riparian Standard and Guideline management direction for stream process groups including the adjustment to Harvest Unit 133. A cumulative, watershed effects analysis has been conducted and summarized in the Aquatic Resources section of Chapter 3.

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occurred within the Project Area. According to Table Aquatic-6 (DEIS, page 3-27), a total of 23 watersheds are proposed to exceed 20 percent of their respective watershed acres consisting of second growth less than 30 years old. In particular, 15 of these watersheds will have cumulative harvesting totals of 35 percent or more, with watersheds I15A and FA1A totalling 60 percent and 53 percent, respectively.

ADEC
#9

In addition, not only has a CWE analysis not been performed for this project, but the cumulative harvesting and roading figures presented in the watershed reports are vastly different from those presented in Table Aquatic-6. For example, the watershed report for watershed I15A states that 39 percent of the watershed has been harvested in the last 30 years and that Alternative 2 proposes to add an additional 1.2 miles of road, and harvest an additional 6.5 percent of the watershed (45.5 percent total cumulative harvesting). However, Table Aquatic-6 indicates that 47 percent of the watershed has been harvested and roaded in the last 30 years, and that an additional 13 percent is proposed under this project, resulting in a cumulative total of 60 percent. This same type of discrepancy is found in nearly all of the watershed reports. Consequently, we are unable to determine what the actual level of cumulative harvesting and roading will be for each watershed.

ADEC
#10

Adjustments to the Forest-wide Standards and Guidelines: Although the Major Watersheds discussion in the DEIS indicates that the Class III process group buffers may be adjusted in some of the watersheds in the Project Area, no indication is provided regarding which buffers in which units are being considered for adjustment. If the landscape-level and watershed-level analyses indicate that some adjustments may be possible, then it would seem reasonable that at least some idea exists as to where these site-specific adjustments could be made.

ADEC
#11

Products for Core Topic 6: Species and Habitat: According to the draft Watershed Analysis Handbook (page 29), for Core Topic 6 (Species and Habitat), the following products are to be included in the report for a watershed-level analysis, such as those completed for the Painted Creek and Sea Level Creek watersheds:

1. A map of the watershed with tributaries delineated (e.g., valley segments, stream reaches) coded by AHMU class and channel type.
2. Charts or maps displaying areas with biologically significant habitats, such as highly productive or sensitive channel types, over-wintering habitats, flood and low-flow refugia, and scarce habitats, such as rich fens and groundwater upwellings.
3. An annual hydrograph of the watershed displaying critical periods for fish species, such as summer and winter low flow conditions, and flood periods.
4. A map of the high density spawning areas for pink and chum salmon.

ADEC
#12

However, with the exception of the VCU maps which display tributaries coded by AHMU class, none of the other products listed above were included in the Painted Creek and Sea level Creek watershed reports. Instead, the maps contain only the minimum amount of information that is to be included for a landscape-level analysis.

Forest Service Response to ADEC 10:

Inconsistencies between sections have been addressed in the Final EIS (see also the Forest Service Response to ADEC 9).

Forest Service Response to ADEC 11:

See the Forest Service Response to ADFG 6. This Project applies TLMP Riparian Standard and Guideline management direction for stream process groups including the adjustment to Harvest Unit 133.

Forest Service Response to ADEC 12:

The described information is included in the Sea Level Final EIS. See the Floodplains and Wetlands section in Chapter 3 and each road card (Appendix 2, ROD) for information about high-value wetlands. Stream-flows for the Project Area are discussed in the Aquatics Resources section of Chapter 3. Basin-wide stream survey data, are located in the Project planning record files, and serve as a tool for the analyses displayed in the Final EIS. Information about aquatic habitat for Sea Level Creek (E79A) is found in the Watershed Analysis.

Letter #2: Alaska Department of Environmental Conservation, page 7

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In addition to the deficiencies noted above, several of the individual watershed reports contain confusing and/or conflicting information, including:

1. At the top of Page D-40, the Sea Level Creek watershed report states *"In 1995 the USFS conducted basin wide surveys in this watershed to quantify habitat, determine fish presence, and identify barriers. Approximately 2,000 meters upstream from the confluence [with Gokachin Creek], Sea Level Creek a 7-meter bedrock waterfall prevents upstream migration of anadromous fish"* (sic). We are unable to determine what this last sentence means. If, in fact, it is referring to Sea Level Creek, then what did the Basin Wide Surveys find in the way of fish habitat and fish species? The only fisheries information that is presented in the report is that from the 1973 ADF&G habitat survey of Gokachin Creek. However, no management activities are proposed within the Gokachin Creek sub-watershed. Consequently, the report provides no information regarding Species and Habitat (Core Topic 6) for the Sea Level Creek watershed.

ADEC
#13

2. The report for watershed D91A (Licking Creek) states that *"Alternative 2 proposes no action in this watershed."* However, the major watersheds discussion in the DEIS (page 3-29) states that *"If units identified in the unit pool for this watershed were harvested, 22 percent of the watershed would be roaded or harvested [the watershed report indicates that 24 percent of the watershed has been harvested in the last 30 years]. Licking Creek contains approximately two miles of pink and coho salmon habitat in the northern subwatershed. The proposed harvest units identified in the unit pool surround the headwaters of this habitat."* In addition, the Project Area Map shows five units in this watershed.

ADEC
#14

3. The report for watershed E53A (Happy Humpy Creek) states that *"70 percent of the watershed is characterized as MMI class 3 or 4"* and that *"23 percent of the stream channels store sediment."* In addition, it also states that *"All class I habitat is high complexity floodplain habitat."* Given these characteristics, why did this watershed score a Potential Impact Index rating of 1, ranking it as the lowest potential risk for sediment among the 53 watersheds in the Project Area? Although the report indicates that Alternative 2 does not propose any road construction or timber harvesting in this watershed, it does state that *"harvest units in this watershed were displayed in the Notice of Intent and could be included in FEIS alternatives."*

ADEC
#15

4. The report for watershed D79A states that *"Eighty-seven percent of the stream channels in this watershed transport sediment with no depositional streams."* However, in the last sentence of the second paragraph, it states *"There are approximately six miles of class I adfluvial habitat; ninety percent is high complexity floodplain habitat"* (emphasis added).

ADEC
#16

5. The report for watershed FA1A (Swing Creek) states *"The lakes in this watershed are surrounded by steep hills that contain all the transport process channels"* (emphasis added). However, the following sentence states that *"There are no MMI 3 or 4 soils within this watershed."*

ADEC
#17

6. The report for watershed FA3A states that *"Sixty-nine percent of the stream channels in this watershed transport sediment and 1 percent of the stream channels store sediment."* What is the function of the remaining 30 percent of the stream channels?

ADEC
#18

7. The PII values and/or PII rankings identified in the reports for watersheds D91A, I14A, D79A, D96A, and E42A are different from those indicated in the Major Watersheds discussion (DEIS,

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#19

Forest Service Response to ADEC 13:

Because Gokachin Creek shares the same outlet as Sea Level Creek, both of the sub watersheds make up watershed E79A. The statement in the Watershed Analysis has been modified to read as follows: "In 1995 the USFS conducted basin wide surveys in this watershed to quantify habitat, determine fish presence, and identify barriers. Approximately 2,000 meters upstream from the estuary, Gokachin drains into Sea Level Creek. The basin-wide survey identified a 7-meter bedrock waterfall which prevents upstream migration of anadromous fish to Gokachin Creek. The watershed below this barrier and up Sea Level Creek, supports anadromous runs of steelhead trout, and Dolly Varden, coho, chum, and pink salmon. Above the barrier and the rest of Gokachin Creek, resident trout and Dolly Varden are found."

Forest Service Response to ADEC 14:

No units are proposed in this watershed in any alternative in the Draft EIS or Final EIS.

Forest Service Response to ADEC 15:

Watershed E53A scored a "relative" score of one in relation to the other watersheds within the Project Area. All watersheds receive a minimum score of one (see Forest Service Response to ADEC 4). As soon as the model recognizes a value, placed in the amount of timber harvest and roads the score increases. The scores are relative and identify where analyses efforts may be focused. Table Watershed-1, displays overall concern for the watersheds after other values are factored into the equation. This table helps to put into perspective the values of each watershed. Note that Sea Level Creek did not receive a high sediment-risk index (SRI) but has a high (11) overall concern score because of its potential fish-habitat capabilities. There are no units proposed in watershed E53A in any alternative.

Forest Service Response to ADEC 16:

This is corrected in the Final EIS.

Forest Service Response to ADEC 17:

The term "steep hills" is a qualitative descriptive term that in no way relates directly to the landslide-potential classification used in the Final EIS.

Forest Service Response to ADEC 18:

Stream channels function three ways in terms of sediment. Stream channels either transport, store, or serve as transitional streams. The model evaluates transport streams and depositional streams. The remaining percentage of streams are transitional and are not evaluated by the model.

Forest Service Response to ADEC 19:

This is corrected in the Final EIS.

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pages 3-29 and 3-30) for these watersheds. In addition, the report for the Painted Creek watershed (page D-32) assigns a PII value of 75 and a PII rank of 2. However, the last sentence on page D-32 states *"Painted Creek has a Potential Impact Index value of 69, ranking this watershed 6th among the 53 watersheds ranked for sediment risk in the Sea Level project area."*

ADEC
#19

D.) Forestry Sciences Laboratory (FSL) Effectiveness Monitoring Study

As indicated in Appendix D (page D-32), the FSL will be conducting a study in the Painted Creek watershed to evaluate the effectiveness of the Forest Plan's Fish and Riparian Standards and Guidelines in maintaining stream channel and fish habitat conditions. Consequently, the management prescriptions for activities in this watershed, including road construction methods, harvest unit design, silvicultural prescriptions and, especially, the types of BMPs and Standards and Guidelines that will be implemented should be tied directly to the FSL study design. If this hasn't been done, then we strongly encourage the Ketchikan Ranger District to actively coordinate their planning efforts for this watershed with the FSL to ensure that the study's objectives are met.

ADEC
#20

E.) Sea Level Creek Watershed

The report for the Sea Level Creek watershed (page D-40) states *"Because of the size of the watershed, amount of fish production, and pristine characteristics of the watershed a more detailed analysis will be conducted."* While more detailed watershed analyses should be performed whenever possible, such analyses should be given higher priority to those areas where cumulative watershed effects is a concern. This point is highlighted in Appendix J of the Forest Plan which states *"When there are multiple risks to fish in the watershed, the intensity of watershed analysis should be commensurate with the level of cumulative risk."*

ADEC
#21

In addition, given the pristine characteristics and high fish production values of the watershed, we believe that it would serve as an excellent reference watershed for the Project Area, and recommend that it be used as such and not entered at this time. Although it is northerly trending, it could be used as a control for the FSL's monitoring study in the Painted Creek watershed. Consequently, we recommend that either Alternatives 4 or 5 be selected as the preferred alternative for this project as, according to the DEIS, both of these alternatives avoid harvesting within the Sea Level Creek watershed.

ADEC
#22

III.) HARVESTING ON SLOPES >72%

TLMP standard and guideline S&W112.I.A.5 states *"At the Forest Plan level, slope gradients of 72% or more are removed from the tentatively suitable timber base due to high risk of soil mass movement and accelerated erosion of class IV channel systems. At the project planning level, the Forest Supervisor or District Ranger may approve timber harvest on slopes of 72% or more on a case-by-case basis, based on the results of an on-site analysis of slope and class IV channel stability and an assessment of potential impacts of accelerated erosion on downslope and downstream fish habitat, other beneficial uses of water, and other resources."*

ADEC
#23

According to the unit cards, 85 units (or 64% of the total 133 units in the unit pool) contain more than half an acre of slopes greater than 72% which have been made available for harvesting in this DEIS. Collectively, these total approximately 181 acres, with Units 75, 76, 203, 205, and 214 each

Forest Service Response to ADEC 20:

The TLMP standards and guidelines for maintaining aquatic habitat are currently being evaluated in the Forest Sciences Lab study on Painted Creek.

Forest Service Response to ADEC 21:

See the Forest Service response to ADEC 9.

Forest Service Response to ADEC 22:

A comparative analysis was initiated in the summer of 1997 in the Princess Bay area of the Misty Fiords National Monument. The reference watershed used in this comparison study is more alike, geomorphological and hydrologically, to the Painted Creek watershed than is Sea Level Creek, and therefore is better suited for use as a reference watershed.

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containing 10 acres or more of such slopes. In particular, Unit 75 contains 34 acres of slopes greater than 72%, which represents over half that unit's total acreage. The only rationale provided in the unit cards for this amount of harvesting is the boilerplate statement presented in the Soils/Watershed narrative that "*An on-site analysis of these slopes by the IDT soil scientist determined that the risk of potential impacts of accelerated erosion on downslope and downstream fish habitat, other beneficial uses of water and other resources was minimal and these slopes are included within the timber harvest unit.*" However, not only is this amount of harvesting contrary to the Tongass Plan Implementation Team (TPIT) clarification on this issue, but it also begs the question as to what the incentive is for harvesting on unsuitable lands, especially since the volume doesn't count towards the ASQ.

According to the TPIT clarification for harvesting on slopes greater than 72 percent, "*The Forest Plan direction was written to allow for the harvest of only small areas of higher gradient (>72%) slopes. It is not anticipated that harvest on these lands will normally occur. Harvest on these areas should be the exception, rather than the rule." Harvest, should it occur, is 'unscheduled' and does not count towards the Allowable Sale Quantity. The amount of harvest on these lands will be estimated annually in the Tongass Monitoring Report"* (emphasis added). Obviously, the proposed harvesting of up to 181 acres of such slopes does not constitute an exception, especially the harvesting that is proposed within Units 75, 76, 203, 205, and 214.

ADEC
#23

Consequently, those areas with slopes greater than 72% that are large enough to exclude from the units, should be dropped from harvest consideration. This is especially true for the extensive amounts of such slopes that are proposed for harvesting within Units 75, 76, 203, 205, and 214, as it is apparent that these units could be reconfigured to avoid most of these steep slopes.

Although we believe that TLMP Standard and Guideline S&W112.I.A.5 was intended to include only small inclusions of slopes greater than 72%, if harvesting continues to be proposed on these slopes, then according to the TPIT clarification on this issue, "*To document the analysis for allowing the harvest the following Checklist should be used:*

Steepness:

Dissection:

Parent Material:

Drainage:

Potential impacts on downstream beneficial uses:

If the analysis is undertaken prior to the signing of the ROD, then the approval (if approved) should be located in the ROD and FEIS. If the information is not available prior to the signing of the NEPA document, then it should be located in the Change Analysis (documentation of changes made between the ROD and on-the-ground activities)."

IV.) HARVESTING ON MMI4 SOILS

According to the unit card maps for Units 164, 165, 166, and 167, the entire portions of these units occur on MMI4 soils. This may simply be a mapping artifact; however, if it is not, then it is inconsistent with the Forest Plan, as the Plan prohibits harvesting on such soils, and has designated them as unsuitable lands (TLMP, Appendix A).

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Forest Service Response to ADEC 23:

There are four levels of soil mass-movement index (MMI) identified in the Project Area, very high (MMI=4), high (MMI=3), moderate (MMI=2), and low (MMI=1). Very high mass-movement-index soils and Soil Map Units (SMUs) with slopes 72 percent or greater are classified as unsuitable for timber production in the TLMP timber resource land suitability (TLMP Final EIS, Appendix A). High mass-movement-index soils are presently classified as suitable forest lands. The TLMP identifies slope gradients of 72 percent or more as having a high risk (MMI=3) of soil mass movement (TLMP Soil and Water Standards and Guidelines page 4-84). The TLMP Soil and Water Standards and Guidelines further relate that "At the project planning level, the Forest Supervisor or District Ranger may approve timber harvest on slopes of 72 percent or more on a case-by-case basis, based on the results of an on-site analysis of slope and class IV channel stability and an assessment of potential impacts of accelerated erosion on downslope and downstream fish habitat, other beneficial uses of water and other resources." There are roughly 100 acres of slopes greater than 72 percent overall within unit boundaries in the Selected Alternative. Of these, approximately 27 acres were recommended for deferral based on site visits. The remainder were reviewed on the ground to determine whether or not resource damage would result from harvest; those determinations were not recorded according to TPIT clarification. As a result, slopes in excess of 72 percent, beyond incidental occurrences (greater than one acre) will be excluded from harvest pending further on-site examination and documentation by soils professionals. These results will be included in unit-change analyses performed at the time when units are finalized. This decision is documented in the Sea Level ROD.

In regards to TPIT clarification on slopes greater than 72 percent it states that, "It is anticipated that harvest on these areas will generally be a small percentage of the total harvest." (emphasis added).

During the environmental analysis, the interdisciplinary team identified potentially unstable areas using input (soil resource inventory maps, geology maps, slope maps) provided by various resource staffs and verified this information in the field. The results of this analysis are documented in the Sea Level ROD Unit Cards and Road Cards. If management activities cannot be designed without causing long-term effects on soil and water resources they will be recommended for reclassification as unsuitable forest lands. The interdisciplinary team has disclosed the risk and potential impact of slope failure in the Final EIS.

Road construction on very high mass-movement-index soils is avoided whenever possible. The Forest Service Handbook 2509.22—Soil and Water Conservation Handbook, R10 Amendment 2509.22-91-1, describes timber management and transportation planning to assure soil and water resource concerns. The BMP 13.5, Protection of Potentially Unstable Areas, is designed to protect potentially unstable areas and avoid landslides. The BMP 14.2, Location of Transportation Facilities, states that "roads, trails and LTFs will be located to avoid unstable, sensitive or fragile areas to the extent possible."

Mitigation measures are site-specific management activities to reduce the adverse impacts of timber harvest, road construction, or other development activities. The Sea Level Project uses unit and road cards to display appropriate mitigation measures which will be applied on a site-specific basis. See the Sea Level ROD for unit-specific mitigation measures.

Mitigation measures are applied following inventory and analysis for land management proposals. Mitigation measures generally require several resource specialists to assess on-site potential for impacts. Field data is collected to help predict impacts and identify mitigation measures. The data are analyzed to identify specifications needed to protect the resources. Factors which affect mitigation may vary from site to site. The extent and kind of impacts are also variable. No single mitigation measure, method, or technique is best for all circumstances.

Recommendations given on units cards in the Sea Level Draft EIS were based primarily on field reconnaissance of the proposed harvest units. Additional information, obtained in reconnaissance since the Draft EIS was published, has been incorporated into more site-specific recommendations in the ROD. Additionally, any new information obtained will be incorporated into final unit designs.

Forest Service Response to ADEC 24:

These areas were mapped as very high landslide-potential (MMI=4) soils in the Ketchikan Area Soil Resource Inventory, which is a broad level resource inventory, intended for Forest level assessments. More site-specific Project level evaluation of these units, identified medium (MMI=2) or high (MMI=3) landslide-potential soils. This has been changed in the Final EIS. Also, see the previous Forest Service Response to ADEC 24.

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V.) UNITS WITH STREAMS LACKING PROCESS GROUP BUFFERS

As depicted on the unit cards, the following units contain Class II or Class III streams that are either not shown as being buffered on the unit card maps, or are not prescribed for process group buffers in the Fish/Watershed narratives:

Unit 43: A buffer is not depicted on the unit card map for the Class II HC2 channel in the central portion of the unit.

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Unit 125: No buffer is shown for the Class II HC1 channel in the southwest portion of the unit.

Unit 126: A buffer is not depicted on the Class II PA2 channel located in the southeast portion of the unit.

Unit 153: The Class III HC5 channel located in the eastern portion of the unit is prescribed for split-line yarding or partial suspension, with no process group buffer prescribed. However, no site-level analysis has been completed to justify eliminating this buffer.

Unit 227: No streamcourse protection measures or process group buffer are prescribed for the Class III HC6 channel located in the eastern portion of the unit. This stream is identified as a Class II HC1 channel immediately at the southern unit boundary, and transitions to an FP3 channel downstream.

VI.) APPENDIX E - ROAD CONDITION SURVEY DATA

While we appreciate the inclusion of a tabular summary of the Road Condition Survey that was completed in the Project Area, the acronyms that are presented in the tables are not defined and, as such, they are somewhat meaningless. We assume that "FP" and "WQ" refer to fish passage and water quality, but are at a loss as to what the other acronyms mean (e.g., "DP," "DD," "WP," "FF," "OT," "CF"). These need to be defined in the FEIS.

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VII.) UNIT CARDS WITH INCORRECT PRIMARY WATERSHED CODES

The unit cards for Units 166 through 241 have the wrong Primary Watershed Code (E77A) listed. This resulted in a substantial degree of confusion when trying to relate the information presented in the watershed reports to the individual units as they are described and depicted on the unit cards. These codes need to be corrected for the FEIS.

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VIII.) LOG TRANSFER FACILITIES

The discussion in the DEIS concerning the proposed log transfer facilities (LTFs) for this project provides no indication of the amount of existing bark accumulations on the benthic substrate at each LTF site, nor does it indicate the volume of timber that has been and will be transferred at each site. Rather, Tables Marine-4 and Marine-5 simply provide an estimate of the expected impacts associated with only this project (Table Marine-5 considers "Long-term Harvest" as the years 2000 to 2004 -- i.e., the life of this timber sale). However, all three of the proposed LTFs are existing facilities that were constructed in the 1960s, 1980s, and 1990s, and have had underwater dive surveys performed at some point during their operational histories. Despite the existence of these

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dive survey reports, no discussion concerning the cumulative impacts of the existing and anticipated future bark deposits at each site is included in the DEIS. Although Table Marine-5 arbitrarily predicts a uniform impact of 1.38 acres at each site, there is no indication as to how this figure was arrived at.

In particular, according to the 1997 dive survey report for the Shoal Cove LTF (DEC files), a substantial amount of bark currently exists on the benthic substrate and appears to extend well beyond the minus 60-foot depth limit of the surveyed area. According to the report, *"Surface area covered by bark debris in the survey, using transects 245 and 005 as boundaries, computes to 0.52 acres which is the same as the area covered by the survey."* Within this 0.52 acre, the area of 100% continuous bark coverage was calculated to be 0.47 acres. While this appears to be a relatively small area of impact, given the underwater topography of the site and the minus 60-foot depth limitation of the survey, only half an acre was surveyed. According to the transect data and the dive survey map, continuous bark coverage appears to extend well beyond the minus 60-foot contour. As a result, the actual areal extent of continuous bark coverage has not been documented and remains unknown. In addition, according to the report, within the area that was surveyed, the bark deposits are up to 81 centimeters (32 inches) thick, which has *"caused a shift from a benthic filter feeding community to that of detrital feeding organisms."* This existing impact was not disclosed in the DEIS, nor was any discussion presented regarding how the additional bark accumulations from this project might potentially increase the magnitude and extent of the impact. If and when the EPA General Permit for Log Transfer Facilities in Alaska is finalized, DEC will require an additional dive survey at this site to document the actual extent of bark coverage, including the area beyond the minus 60-foot depth contour. If the accumulations are found to be significant (greater than one acre continuous coverage), then the department may exercise its regulatory authority and require remediation. This may also apply to the Elf Point LTF as, according to the 1995 dive survey report for that site, the area of both 100% continuous bark coverage and a thickness exceeding 10 centimeters was estimated to be one acre, though the actual extent may be greater as the area beyond the minus 60-foot contour was not surveyed in detail.

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#28**PRELIMINARY ACMP COMMENTS****1.) Road Maintenance/Closure**

The road cards for this DEIS indicate that a considerable number of roads will have an Alaska Forest Resources and Practices Regulations (AFRPR) status of "closed" following completion of this timber sale. However, the description in the DEIS (page 3-242) of what this closure will entail is not consistent with the road closure standards of **11 AAC 95.320**, which require the removal of all drainage structures and their associated fills. Specifically, according to the description in the DEIS, *"For roads to be closed, bridges will be removed and used in other locations. The roads behind the bridges will not be maintained for vehicular traffic; however, drainage structures will be monitored for functional condition. Maintenance Level 1 will be applied to these roads, which will include waterbars to safeguard minor drainage structures. This measure will minimize erosion in the event of structure failure."* Consequently, these roads would more appropriately be considered inactive in terms of AFRPR standards (**11 AAC 95.315(c)**). However, **11 AAC 95.315(c)** requires that

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Forest Service Response to ADEC 25:

The Final EIS shows this buffer in Unit 43. Unit 125 does not contain any Class II streams to the southwest and is corrected in the Final EIS. There is no HC5 Class III stream in Unit 153. The Unit 227 stream is included in the Final EIS.

Forest Service Response to ADEC 26:

Terms and acronyms included in the Road Condition Survey can be found in the Sea Level planning record.

Forest Service Response to ADEC 27:

This is corrected in the Final EIS.

Forest Service Response to ADEC 28:

The LTF monitoring dive reports are included in the planning record for the Sea Level Project and are summarized in the Marine Environment section of Chapter Three. The LTFs to be used for this Project, are existing, permitted sites. They meet all current standards required for permitting from the U.S. Army Corp. of Engineers and the EPA National Pollution Discharge Elimination System (NPDES). If and when the EPA general permit for LTFs in Alaska is finalized, the facilities will be brought into compliance with the new standards. If permitting conditions are changed, monitoring will comply with the new requirements. Monitoring of LTFs in the past has been in accordance with permit requirements.

Forest Service Response to ADEC 29:

Mitigation measures are site-specific management activities to reduce the adverse impacts of timber harvest, road construction, or other development activities. The Project uses unit and road cards to display appropriate mitigation measures which will be applied on a site-specific basis (See the Sea Level ROD for unit-specific mitigation measures).

Mitigation measures are applied following inventory and analysis for land management proposals. Mitigation measures generally require several resource specialists to assess on-site potential for impacts. Field data is collected to help predict impacts and identify mitigation measures. The data are analyzed to identify specifications needed to protect the aquatic resources. Factors which affect mitigation vary from site to site. The extent and kind of impact are also variable. No single mitigation measure, method, or technique is best for all circumstances.

Recommendations identified on unit and road cards in the Draft EIS are based mainly upon reconnaissance of the proposed harvest units and road locations. Additional information obtained in reconnaissance since the Draft EIS was issued has been incorporated into more site-specific recommendations in the Final EIS. Information obtained during sale layout will be incorporated into harvest-unit design.

Additional information, on units which will require buffer strips, has been added to the ROD unit and road cards. Units near streams are listed and buffer prescriptions described. In addition, the section on the mitigation measures common to all action alternatives in Chapter 2 discusses the stream buffering that will be done. Although permitted under the TTRA, no yarding is planned across TTRA mandated buffer strips, and timber will be directionality felled away from stream buffers.

The seasonal timing of in-stream construction operations is prescribed, as a resource-protection requirement for Class I streams. Timing is recommended on some Class II and even Class III streams when construction activities may directly affect downstream fisheries. Timing recommendations are based upon site-specific and downstream impacts to fish spawning, egg presence, fry emergence, and migration of smolt. The dates for the general windows represent a period during which in-stream work may be conducted. Final timing and construction windows are determined from a review of the site and stream specific information.

Roads that are indicated on the road cards of having a AFRPR closed status will meet the road closure standards of 11 AC 95.320.

The Forest Service does plan to periodically monitor all roads that are considered AFRPR "inactive" in accordance with the TLMP Monitoring Plan and protocols developed by the Interagency Monitoring and Evaluation Group. During the first 1 to 3 years after roads are constructed and still open, maintenance problem areas can be identified and corrected before the roads are closed. These areas and all other roads will then be monitored, whether the road is in "inactive or closed status". The roads will then be maintained in accordance with BMP's.

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inactive roads be maintained so as to: 1.) keep ditches and drainage structures maintained as necessary to assure water flow and fish passage; 2.) keep the road surface crowned, outsloped, water barred, or otherwise left in a condition not conducive to erosion; and 3.) keep ditches and drainage structures clear and in good repair.

Although the DEIS does not indicate the miles of roads that will be closed, according to the milepost figures on the road cards, approximately 49 miles of roads are scheduled to be closed through the use of barriers, which we assume to mean tank traps or boulders, as these are the least expensive methods of blocking roads. Of this total, only 16 miles are proposed for obliteration, with an additional 3.95 miles proposed to have culverts removed on "protected streams" and water barred their entire lengths. This leaves approximately 29 miles of closed roads that will be blocked to vehicular traffic by barriers, with all drainage structures left in place. In addition to these barriered "closed" roads, according to the road cards, another 16.5 miles of roads are designated to be inactive, but have barriers indicated as the closure device. Consequently, it is unclear as to how these roads will be effectively monitored if they are blocked to vehicles. Does the Forest Service expect to periodically walk all 45.5 miles?

This is of particular concern given the results of the Road Condition Survey that was conducted on approximately two-thirds of the existing roads in the Project Area. According to the results of the survey (DEIS Table Roads-5, page 3-244), 33 percent of the culverts on fish-bearing streams were found to be barriers to fish passage, and 16 percent of the culverts on non fish-bearing (water quality) streams were identified as having failed, requiring heavy equipment for repair or replacement. In addition, although Appendix E did not include any information pertaining to road prism condition, according to the Painted Creek watershed report (page D-38), "*Erosion is occurring at two points along the road (8440100) in this sub basin. Road drainage is not functioning correctly near the western edge of this sub basin causing the road surface to deteriorate. Mass wasting of road 8440100 is occurring approximately 200 feet from the end of road 8440100.*" Similar problems may exist on other roads in the Project Area, and highlight the importance of putting closed roads to bed. This is particularly true given the isolated nature of the Project Area and the associated high cost of mobilizing equipment to perform routine maintenance and conduct repairs, especially when sufficient funds may not exist. According to the DEIS (page 3-31) "*With site specific information available on existing roads, critical stream crossings and roads that are potential sediment sources can be effectively managed (funding dependent)*" (emphasis added).

Consequently, unless assurance is provided that these "closed" roads will be effectively maintained consistent with the standards of 11 AAC 95.315(c), and that sufficient staff and funding will be available to complete the work, the 45.5 miles of barriered roads should be effectively closed according to the standards of 11 AAC 95.320. Specifically, these include outsloping or water barring the road surfaces, leaving ditches in a condition suitable to reduce erosion, and removing all drainage structures, including bridges, culverts, and their associated fills.

2.) Road Alignments - Questionable Field Review

As indicated above, according to the Painted Creek watershed report, substantial erosion and mass wasting problems were identified on the 8440100 Road. However, the Fish Habitat narrative on the road card for this road states "*Road Condition Survey (See Appendix E) completed in 1997 verifies the 8440100 existing road does not have any critical maintenance concerns present at this time.*"

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Pete Griffin

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July 23, 1998

In addition, no mention of these problems is made in the Soils/Watershed narrative on the road card. Consequently, either the watershed report is incorrect, or the definition used for "critical maintenance concerns" does not include non-functional drainage structures and deterioration and mass wasting of the road prism. However, given this conflicting information and the somewhat non-specific nature of many of the road card narratives, it is apparent that, other than the road condition survey that was completed on some of the roads in the Project Area, most of the information provided in the road cards is aerial photo- or GIS-based, and not field verified. This is especially apparent on the cards for those roads or portions of roads that are planned for new construction, as the Fish Habitat narratives for nearly all these roads contain statements such as "Field reconnaissance will be required for this road to identify any water quality streams that may need CMP's" ... "No fisheries concerns identified during the planning phase. Additional reconnaissance required after final road location is completed" ... "Additional reconnaissance is required for a portion of the 8430200 road that will require new construction" ... "No stream crossings have been identified during the planning phase. Timing restrictions may be required on some Class III streams after final road location is reviewed by District Biologist." Consequently, until these proposed road alignments are reviewed in the field, and all stream crossings are identified, they can only be considered conceptual and not ready for an ACMP consistency determination. In addition, without identifying all of the streams that will be crossed by these alignments, the road cards are inconsistent with the surface water information requirement of 11 AAC 95.220(a)(5)(B).

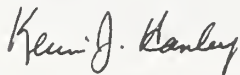
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During our February 25, 1998 meeting with the Forest Service to review the draft of the Sea Level DEIS, we were told that, for Ketchikan Area timber sales, site-specific stream crossing information usually is not available by the DEIS stage of the planning process. However, it is difficult to understand why the Ketchikan Area is unable to review all proposed road alignments in the field and provide site-specific stream crossing information in their DEISs, when the Stikine Area routinely provides this information in the road cards for all of their DEISs (see the cards for the Crane and Rowan Mountain DEIS as an example). In fact, we have been told by several different Stikine Area planning and resource specialist staff that all proposed road alignments are field reviewed by a hydrologist and a fisheries biologist prior to the DEIS, and that the detailed site-specific stream crossing information on the road cards for their timber sales is accurate. Therefore, we encourage the Ketchikan Area to follow the Stikine Area's example in order to avoid this recurring problem of lacking site-specific information at this stage of the planning process.

ADEC
#31

Thank you for the opportunity to comment. We look forward to reviewing the final EIS for this timber sale.

Sincerely,



Kevin J. Hanley
Environmental Specialist

cc: Jim Ferguson, ADEC
Deena Henkins, ADEC
Jack Gustafson, ADF&G
Bill Hanson, ADF&G
Tom Paul, ADF&G

Forest Service Response to ADEC 30:

Resource specialists worked with the engineers, to locate roads in areas that will minimize effects on the aquatic resource. Prior to the production of the Final EIS, District fish biologists walked the proposed roads included in the Selected Alternative and provided site-specific timing and passage recommendations for all stream crossings. The seasonal timing of in-stream construction operations is most often prescribed as a resource-protection requirement for Class I streams. Timing may also be recommended on Class II and sometimes Class III streams. Timing and fish passage recommendations are based on the site-specific and downstream impacts to fish spawning, egg presence, fry emergence, and smolt migration (BMP 14.64). The objective of providing fish passage is to allow for natural migration of anadromous and resident salmonids. The incorporation of fish-passage facilities at stream crossings should be based on assessments of the life-cycle requirements of fish species, of habitat quality and of the accessibility of sites to fish.

Your comments on the coordination of the Watershed Analysis and road cards narratives is noted. These concerns have been reviewed and are consistent with the Final EIS.

Preliminary location of roads, whether by photo interpretation or ground survey, is not final. Final locations are completed in conjunction with all resource concerns involved. Road locations 100 to 200 feet on either side of the preliminary location could have different restrictions. Until a road and or unit is known to be in a preferred alternative the final road locations, coordinated with all resource disciplines, may not be completed until after the Draft EIS is complete. However, road locations are finalized prior to the Final EIS and ROD.

Site-specific stream information will be made available to the State of Alaska in accordance with the Supplemental Memorandum of Understanding (MOU) signed by the State and the Forest Service in March of 1998 (98 MOU-10-011). This MOU subjects stream crossings to State review and concurrence with detailed crossing plans.

Forest Service Response to ADEC 31:

The Forest Service uses the best available information in the analysis of environmental effects. Site-specific information that was available for analyses in the Draft EIS is included in the Appendix H of the Draft EIS, or in the harvest-unit folders at the Ketchikan/Misty Fiords Ranger District office. Between the time of publication of the Draft EIS and Final EIS, additional site-specific information has been collected and incorporated into the design of harvest units and roads.

G Appendix

Letter #3: U.S. Environmental Protection Agency, page 1



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, Washington 98101

August 10, 1998

Reply To
Attn Of: ECO-088

Ref: 97-032-AFS

Bradley Powell, Forest Supervisor
Ketchikan Administrative Area
Tongass National Forest
Federal Building
Ketchikan, Alaska 99901

OPTIONAL FORM 99 (7-90)

FAX TRANSMITTAL		# of pages = 9
To: NEIL BABIK	From: BILL RYAN	
Dept./Agency: KRD	Phone: (907) 553-8521	
Fax #: (907) 225-8738	Fax #:	
NSN 7540-01-317-7308 5000-101 GENERAL SERVICES ADMINISTRATION		

Dear Mr. Powell:

EPA has reviewed the draft Environmental Impact Statement (EIS) for the proposed Sea Level Timber Sale in accordance with our responsibilities under the National Environmental Policy Act and §309 of the Clean Air Act. The draft EIS analyzes five action alternatives to harvest between 13 and 106 million board feet of timber from an approximate 92,000 acre project area along both sides of Carroll Inlet on south central Revillagigedo Island, east of Ketchikan, Alaska. The draft EIS identifies Alternative 3 as the preferred alternative.

Based on our review, we have rated the supplemental draft EIS EC-2 (Environmental Concerns - Insufficient Information). This rating and a summary of our comments will be published in the *Federal Register*. We have enclosed a summary of the rating system used in our review for your reference.

Our primary concerns, which are related to the potential impacts of the project on water quality and the marine environment, are highlighted below.

- 1) The EIS lacks site-specific analyses that demonstrate how the application of Best Management Practices (BMPs) would result in negligible adverse impacts to fish habitat and water quality. We recommend that the EIS provide additional information/analyses to support the characterization of impacts to water quality within the project area.
- 2) We are concerned with the lack of clarity in the EIS related to the establishment of riparian buffers on Class III streams within the project area. We recommend that the requisite site-specific analyses required by the Tongass Land Management Plan for adjusting Class III buffers be completed prior to issuance to the final EIS.
- 3) The draft EIS does not address the direct, site-specific environmental impacts associated with the proposed use of three existing log transfer facilities (LTFs) for each of the project alternatives. The final EIS should include a discussion of the existing conditions at the LTFs proposed for use in the project alternatives, as well as an evaluation of

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environmental consequences associated with the use of those LTFs.

EPA #3

- 4) We are concerned that roads in the project area will not be closed or maintained in a manner that will ensure protection of aquatic resources. We recommend that roads be closed and maintained in a manner consistent with Alaska Forest Resources and Practices Regulations.

EPA
#4

Enclosed please find our detailed comments. We are interested in working closely with the Forest Service in the resolution of these issues and I encourage you to contact Bill Ryan at (206) 553-8561 at your earliest convenience to discuss our comments and how they might best be addressed.

Thank you for the opportunity to review this draft EIS.

Sincerely,



Richard B. Parkin, Chief
Geographic Implementation Unit

Enclosures

cc: Neil Babik, Ketchikan Ranger District
Kevin Hanley, ADEC
Ralph Thompson, ACOE-Juneau

G Appendix

Point of correction in the first paragraph:

The Sea Level Draft EIS analyzed five action alternatives which proposed to harvest between 9 and 77 million board feet of timber. The number of harvest units ranges from 13 to 106. See Table 2-2 Summary Comparison of Alternatives, in Chapter 2, page 2-9.

Forest Service Response to EPA 1:

Additional information and analyses has been added to the Final EIS to support the characterization of impacts to water quality within the Project Area.

Forest Service Response to EPA 2:

Since the release of the Draft EIS, additional site specific information was collected on harvest units. The Watershed Analysis for the Project Area can be found in the planning record. With only one exception, TLMP Standards and Guidelines on stream-process-group management direction were applied on all Class III streams. Also, see Forest Service Response to ADFG 6.

Forest Service Response to EPA 3:

The Final EIS includes discussion about the current conditions of the LTF sites as well as discussion about the environmental consequences associated with the use of the three existing LTFs. The most current monitoring dive reports are included in the Final EIS planning record and summarized in the Marine Environment section of Chapter 3. For additional information, see Forest Service Responses to ADEC 29 and 30.

Forest Service Response to EPA 4:

The road-maintenance strategy for the Project Area is described in Chapter 3 of the Final EIS. All new-construction roads are to be closed upon completion of silvicultural activities. The road cards indicate whether they will be closed in a manner consistent with AFRPR. The roads planned to be closed, but not in the AFRPR definition of closure, will be considered inactive per the AFRPR and will be monitored and maintained per those requirements. Also, see Forest Service Responses to ADFG 4, ADEC 31 and ADEC 32.

Forest Service Response to EPA 5:

The other action alternatives are alternatives to the proposed action and are designed to be responsive to Project related significant NEPA issues. Also, see the Forest Service Response to SEACC 5.

Forest Service Response to EPA 6:

A section on BMP monitoring was added to the Water Quality section, Effects of the Alternatives on Aquatic Resources, (Chapter 3, Final EIS) which addresses concern regarding site-specific impacts. See also Forest Service Response to EPA 10.

Forest Service Response to EPA 7:

The cumulative effects of timber harvest in the Shelter Cove timber sales were analyzed in the Draft EIS. While not mentioned by name, the effects of this recent-past harvest was incorporated into the analyses of old-growth fragmentation and patch-size effectiveness, Chapter 3, pages 3-79 through 3-9; the cumulative effects of timber entry, Chapter 3, page 3-131; the effects on floodplains and wetlands, Chapter 3, pages 3-54 through 3-59; and the effects upon ecological site productivity, Chapter 3, pages 3-40 through 3-45. Currently, the Foggy Timber sale, on the Shelter Cove road system, in the Upper Carroll Project Area, is being harvested. The Sea Level Final EIS analyzes the cumulative effects of timber harvest in the Upper Carroll Project Area.

Forest Service Response to EPA 8:

See the Forest Service Response to ADFG 6 and ADEC 2.

Letter #3: U.S. Environmental Protection Agency, page 3

**EPA Region 10 Comments
on the
Sea Level Timber Sale Draft Environmental Impact Statement (EIS)**

General Comments

Page 1-1 of the draft EIS states that the proposed action is to make available approximately 60 million board-feet (MMBF) of timber to support the Ketchikan Area timber program, yet the EIS does not evaluate a 60 MMBF alternative. We recommend that the EIS provide additional discussion of why the proposed action is different from all proposed action alternatives and information related to the Sea Level project contained in Appendix A.

EPA
#5

We find that the draft EIS provides general information about impacts from certain activities on specific resources, but provides very little analysis to link this information specifically to the Sea Level project. For example, the EIS provides approximately 2 pages of discussion of the types of impacts that could potentially result from the construction and operation of log transfer facilities, yet there is virtually no information provided that relates that discussion to impacts in the vicinity of the proposed Shelter Cove, Shoal Cove, and Elf Point sites. Similarly, the EIS discusses various impacts to water quality that result from timber harvesting activities, and concludes (without any apparent site-specific analyses) that water quality impacts from the proposed project would be negligible simply because Best Management Practices (BMPs) would be applied. We recommend that the EIS include a characterization of impacts that would result specifically with the implementation of the Sea Level project.

EPA
#6

We are concerned that the impacts from the Upper Carroll and Shelter Cove timber sales have not been incorporated into the cumulative effects analyses. Because of the physical proximity of these projects to the proposed Sea Level timber sale, it appears that these projects should be integrated into the cumulative effects analyses presented throughout the EIS. We recommend that the Upper Carroll and Shelter Cove timber sales be integrated, as appropriate, into cumulative effects analyses presented in the EIS.

EPA
#7**Aquatic Resources (pages 3-8 thru 3-31)****Class III Process Group Standards and Guidelines**

We are concerned with the lack of clarity and/or analysis in the EIS as to how (or if) the Process Group Standards and Guidelines (S&Gs) for Class III streams would be applied. Statements in the EIS suggest that Class III buffers may be adjusted based on further site-specific analyses. S&G RIP2(III)(B) clearly states that process group S&Gs are direction for Riparian Management Areas and "may be adjusted for a project on a site-specific basis following the completion of a watershed analysis." Appendix J to the Tongass Land Management Plan (TLMP) clearly states that watershed analysis (WA) must be completed before site-specific adjustments to process group S&Gs can be incorporated into projects and WA may be conducted prior to or as part of the NEPA analysis for a project. Because the draft EIS suggests that the Forest Service may modify some Class III buffers from the Process Group S&G direction, we recommend that the requisite watershed analyses (including site-specific analyses) be completed prior to the release

EPA
#8

Forest Service Response to EPA 9:

The TLMP ROD states that "...full implementation of the Plan and this ROD is expected to maintain and improve water quality and satisfy all State water-quality requirements. I base this finding on the extensive standards and guidelines contained in the Plan, the application of State approved BMPs specifically designed to protect water quality, and the discussion of water quality and beneficial uses contained in the Final EIS..." (TLMP ROD, page 38). Where they are discussed in the Aquatic Resources section, (Chapter 3 of the Final EIS), BMPs are now cited. The Riparian Standards and Guidelines, and other direction of the TLMP, meet or exceed all of the recommendations made by the Aquatic Fish Habitat Assessment (AFHA). The Riparian Standard and Guidelines will be applied in all watersheds on the Project Area, and are sufficient to protect fish habitat and provide for sport and commercial fisheries and subsistence. No adjustments to the RMA buffers are proposed except in Unit 133 of Sea Level Creek watershed (E79A03). The Ketchikan Area Monitoring Report for 1997 (USDA, unpublished) says that the Sea Level Timber Sale and one other project provide the first opportunity to monitor effectiveness of TLMP standards and guidelines.

Forest Service Response to EPA 10:

The Sea Level Project is fully consistent with the TLMP. However, the Aquatic Resources section in Chapter 3 now contains a section called Water Quality Monitoring Feedback Loops responsive to this issue. The citations are referenced as recommended. The BMPs are listed throughout Aquatic Resources to show where we applied BMPs in a balanced approach. The implementation and effectiveness monitoring strategy for this Project is also listed there. Monitoring on the Tongass is conducted cooperatively with an Interagency Monitoring and Evaluation Group of which the EPA is a member. The group is tasked, as per direction in the TLMP ROD, to develop monitoring and evaluation protocols (Powell 1998).

Letter #3: U.S. Environmental Protection Agency, page 4

of the final EIS. The present watershed assessments are not of sufficient detail to support site-specific adjustments to Class III buffers.

EPA #8

Best Management Practices

We are extremely concerned with the overall conclusions that impacts to water quality and fish habitat would not be significant simply because BMPs would be applied. First, the BMPs that would be applied with the implementation of the proposed project are only explicitly identified on the Unit Cards contained in Appendix H. The manner in which the main body of the EIS characterizes BMPs as an undefined group of mitigation measures does not allow the reviewer to understand how, or why, the BMPs (individually and collectively) would protect water quality. Second, and more importantly, the EIS does not present any discussion of past effectiveness monitoring efforts on the Tongass to support the claim that the BMPs to be employed would result in insignificant impacts to water quality. Consequently, statements such as "effects upon water quality in the Sea Level Project Area systems will be within State standards in all alternatives" are not supported by the information presented in the EIS. We recommend that the EIS be revised to include an expanded discussion of the BMPs to be applied. This discussion should include sufficient information to support the conclusions about the effectiveness of the BMPs in protecting water quality.

EPA
#9

Page 3-24 states that "EPA has determined that the reasonable implementation, application, and monitoring of BMPs achieves compliance with the intent of the Clean Water Act." While the EIS provides no reference for the statement above to place it in its proper context, we offer the following comments and recommendations related to the implementation and monitoring of BMPs in the context of the proposed project.

EPA fully agrees with Forest Service BMP 11.6 (Soil and Water Conservation Handbook, FSH 2509.22), which states that "monitoring is an essential part of all BMPs as well as the overall BMP process" and recommend that the project be designed to include an effective feedback element, which includes both implementation and effectiveness monitoring. As you are aware, the BMP process includes the following elements:

EPA
#10

- 1) BMP design
- 2) BMP application
- 3) Monitoring
- 4) Evaluation
- 5) Reporting
- 6) BMP re-design (if necessary)

Without a balanced approach to each component of the BMP process, we do not believe that BMP 11.6 can be adequately implemented. We continue to find it extremely difficult to relate monitoring efforts undertaken as part of an Area-wide or Forest-wide strategy to projects such as the proposed Sea Level timber sale. Consequently, we recommend that the project include a monitoring program designed to monitor both BMP implementation

Letter #3: U.S. Environmental Protection Agency, page 5

and BMP effectiveness, along with a clear description of the evaluation methodologies and reporting mechanisms to be used. Without an integrated approach to the evaluation of the BMP "process," the effectiveness of the management practices being proposed to protect water quality/fish habitat for the Sea Level project cannot be determined in a meaningful way. Additionally, consistent with BMP 11.6, we recommend that you coordinate the development of proposed monitoring studies with the Alaska Department of Environmental Conservation.

EPA
#10

Page 3-21 of the EIS states that "none of the action alternatives are likely to have an effect on stream flows and water chemistry." Page 3-21 also states that "timber harvest may affect the sources of LWD, stream stability, water flow, and quality" (emphasis added). We recommend that the EIS be revised to clarify whether, and why, adverse impacts to water quality would or would not result with the implementation of the proposed project.

EPA
#11

In the discussion of impacts on hydrology (pages 3-23 and 3-24), two studies are cited regarding the effects of timber harvesting on stream flows. The first study revealed no changes to low flows while the second showed that there were. The section concludes that "BMPs applied in the Project Area would reduce the potential for changes in streamflow regimes." We recommend that the discussion in the EIS be expanded to include a characterization of whether the proposed project would result in changes to stream flows, and the significance of such changes.

EPA
#12

Page 3-24 cites Paustian (1987) in support of the claim that, except for short-term deviations from quantitative standards, BMPs are effective in maintaining sediment concentrations within State standards. This statement seems to conflict with the 1995 Anadromous Fish Habitat Assessment (AFHA) report that concluded that current practices (at the time of publication) were not adequate for protecting fish habitat and water quality. The AFHA conclusions and recommendations form the basis for the Standards and Guidelines (S&Gs) contained in the 1997 Tongass Land Management Plan (TLMP) Revision. We recommend that the EIS be revised to include a discussion of the effectiveness of the BMPs currently proposed for use for the Sea Level project (including the Process Group S&Gs).

EPA
#13

Watershed Analyses/Cumulative Watershed Effects

We are concerned that Sediment Risk Assessment analyses are being relied upon as the only means of evaluating cumulative watershed effects (CWEs). We believe that the model developed by Ted Geier (referenced in USDA Forest Service 1998) is an extremely useful tool for conducting initial evaluations of potential sedimentation risks at the landscape level and to rank those risks in a relative sense. We see its real strength is in prioritizing watersheds to evaluate further as part of watershed and project planning efforts. The weakness we see in the model is that the relative rankings and Potential Impact Index (PII) scores do not readily translate to "on-the-ground" impacts (actual sedimentation impacts and their magnitudes/significance are not predicted). We believe that it is useful to include the risk rankings, PII scores, and percentages of harvesting in the CWE discussions presented on page 3-28 through 3-30, we believe that a CWE should also include information related to the cumulative impacts to hydrologic functions, channel

EPA
#14

Forest Service Response to EPA 11:

Effects upon water quality are clarified in the Final EIS. Also see the Forest Service Responses to EPA 9 and EPA 10.

Forest Service Response to EPA 12:

Studies in western Oregon have indicated that past logging has decreased the amount of precipitation intercepted by the forest canopy and evaporated back to the atmosphere without touching the ground. This resulted in increased annual water yield (Harr, 1989). Larger increases generally occur in watersheds with the most extensive harvest (Harr et.al., 1975). When 35 percent of a watershed was harvested on Prince of Wales Island, low flows were significantly increased (Bartos, 1989). One study conducted in western Oregon indicated that, over the long term, summer low flows decrease below pre-harvest levels as vigorous riparian-area regrowth occurs (Hicks, Beschta, and Harr, 1991). Another study in western Washington found that stream-water temperature was statistically correlated to soil temperature of the surrounding area. The relationship following harvest appeared to weaken, possibly because of increased diurnal variation in soil temperature (Brosofske, et.al., 1997). No long-term peer reviewed studies have been conducted in Southeast Alaska regarding the effects of timber harvest on water yield during low flow periods. However, cooler temperatures and greater summer precipitation may decrease any long-term reductions in low flow when compared to Oregon and Washington.

Stream-buffer requirements now used on the Tongass National Forest, will eliminate stream-bank harvest on Class I, II and III streams. Only the smallest streams (generally less than 5-foot active channel width) will not have streamside trees retained (TLMP, 1997, pages 4-53 to 4-71). Since there will not be riparian-area harvest and subsequent regrowth of riparian-associated species with high transpiration rates, and soils will generally be covered by an organic mat, it seems unlikely that stream temperature will increase or summer flows will be reduced.

Logging in Southeast Alaska may have less effect on runoff than in other forested regions because of the typical long duration storms, which often persist well beyond the point where the canopy is saturated. Once saturated, it is likely precipitation which falls on the canopy drips to the forest floor at near the same rate as it would in a clearcut. Harvest prescriptions such as group selection and single-tree selection which will cut from 10 to 60 percent of the timber volume have been prescribed in several recent timber-harvest EISs. These prescriptions could create less change in water yield than conventional clearcut.

The Forest Service is investing over \$50,000 annually to collect runoff data from paired sub-basins of the Staney Creek watershed through an agreement with the U.S. Geological Survey. The purpose of this stream-flow monitoring project is to collect definitive information on hydrologic characteristics of a relatively undisturbed sub-basin, compared to the hydrology of other portions of the watershed with a high percentage of old-growth harvest. This comparison will provide better quantitative assessment of the relative effects of high-intensity management (characterized by extensive clearcut harvest blocks and minimal riparian-area protection) on stream-runoff regimes. However, this study will still not fully assess the likely hydrologic effects of current management practices on the Tongass that incorporate extensive riparian buffers throughout a watershed and reduced clearcut harvest acreage. We hope to fund a third party contract in fiscal year 2000 to complete a detailed statistical analysis for the Staney Creek stream-gauging data and report on measurable trends in hydrologic condition.

Forest Service Response to EPA 13:

See the Forest Service Response to EPA 9. The TLMP ROD indicates that "...standards and guidelines and other direction of the TLMP... meet or exceed all of those recommendations by AFHA, and include some of the features of option 1."

Forest Service Response to EPA 14:

See Forest Service Response to ADEC 9 and ADEC 10. The TLMP Final EIS (page 3-323) indicates that "...because of the overriding influence of climate and basin resiliency, changes in streamflow and sediment delivery resulting from management activities (such as timber harvest) are difficult to measure. Little is known about the effects of timber harvest and roads on stream flows in Southeast Alaska watersheds. The effects from changes in streamflow in a particular watershed can only be estimated during project planning, where the rate of entry into watersheds and the locations of proposed roads and harvest units will be analyzed. The actual effects on stream flows can only be determined by site-specific monitoring."

stability, and fish habitat conditions.

The discussion of Enhancement Opportunities on page 3-31 is somewhat confusing with its conclusion that "no water quality improvement needs have been identified within the Sea Level Project Area" given that 11 "passage failures" and 19 "water quality failures" were identified in the project area during the 1996-97 road condition survey (see Table Roads-5). We view these "failures" as improvement/restoration needs that should be corrected to protect water quality and recommend that the project be modified to ensure that these "failures" are rehabilitated.

EPA
#14

EPA
#15

Marine Environment and Log Transfer Facilities (LTFs)

We are very concerned with the lack of information and analysis related to the proposed use of the existing Shelter Cove, Shoal Cove, and Elf Point LTFs in the EIS. The draft EIS fails to provide information related to the current conditions at the locations proposed to be used (such as current dive reports), nor does it address the potential impacts to the marine environment related to in-water log transfer and storage at each of the sites. Impacts from log transfer and storage activities would be a direct consequence of the proposed project and must be analyzed and discussed in the EIS to ensure that environmental information is available to public officials and citizens before decisions are made and actions are taken (see 40 CFR 1500.1(b)). We believe that additional information and analyses of the proposed LTFs is needed to ensure that all practicable means are used to restore and enhance the quality of the human environment and avoid or minimize any possible adverse effects on the environment (see 40 CFR 1500.2(f)). While the draft EIS states each of the LTFs is permitted, and assumes that these permits would be complied with, we do not believe that the EIS discloses important information about the affected environment nor does it adequately evaluate and discuss the potential impacts from the proposed use of the LTFs to satisfy 40 CFR 1502.15 and 1502.16.

EPA
#16

The EPA supports alternatives to log transfer which would minimize the direct, indirect, and cumulative impacts to the marine environment. Page 3-200 of the draft EIS indicates that "during the transfer of logs from land to water, bark would be sloughed off and could be deposited on the ocean bottom; bark also is continually sloughed off by agitation by wind and waves while logs are in rafts." Therefore, other alternatives which do not require the transfer of logs from land to water should be seriously considered. The direct land to barge transfer of logs would minimize the discharge and accumulation of woody debris. Activities which do not require the discharge of bark and other woody debris into the marine environment represent the least damaging alternative.

EPA
#17

We were unable to determine the technical basis for the methodology used to derive the potential impacts (defined in acres) from the operation of the LTFs or why the impacts from the proposed Shelter Cove and Shoal Cove LTFs (A-frame designs) would be expected to be the same as that of the existing Elf Point LTF (barge loading facility). Given the distinctly different designs and operations of the facilities, we believe additional discussion is needed to clarify potential impacts from each LTF. We believe that bark deposition from raft storage of logs

EPA
#18

Forest Service Response to EPA 15:

The Final EIS contains an updated list of water-quality maintenance and improvement needs. See also Appendix F for riparian vegetation manipulation and instream restoration plans.

Forest Service Response to EPA 16:

Dive monitoring reports, on each of the LTFs proposed for use, will be included in the planning record for the Project and summarized in the Marine Environment section of Chapter 3. These reports display the current condition of each site. The Final EIS discussion on LTFs has been expanded to address the Project's potential impacts to the marine environment.

Forest Service Response to EPA 17:

Consideration of direct land-to-barge transfer of logs has been considered in development of the alternatives. Direct land-to-barge operations require that logs be transferred by helicopter to the barge or by constructing a barge-loading facility at the LTF site. Barge-loading facilities require a minimum of 25 feet of water at low tide. Land-to-water operations require access to 5 feet of water at low tide (Farris and Vaughan 4/85). Subsequently a barge facility to be constructed on the same site as a land-to-water site would require the bulkhead to extend out to the required depth thus permanently impacting a greater amount of marine environment. Helicopter-to-barge operations are very high-cost operations and are sometimes used when no other alternative exists. This Project has three active permitted sites available for log transfer, so cost of helicopter transfer of logs was considered but not in detail.

Forest Service Response to EPA 18:

Additional discussion and reference to the methodology used to derive potential impacts from operation of the LTFs is included in the Final EIS. Also literature cited in the appendices directs the reader to studies and requirements for LTF sizes and potential impacts.

could potentially be significant. We recommend that the final EIS provide additional discussion/analysis of impacts from the proposed LTFs and raft storage.

EPA
#18

We recommend that the EIS be revised to disclose that the Shelter Cove LTF would also be used with the implementation of the Upper Carroll timber sale. The evaluation of impacts to the marine environment should reflect the use of the LTF to support other past and foreseeable timber sales.

EPA
#19

Roads and Facilities

Many of the project roads are assigned an Alaska Forest Resources and Practices Regulations (AFRPR) status of closed upon completion of timber harvesting activities, yet it appears that these roads would not be closed in a manner consistent with AFRPR standards (11 AAC 95.320). If the Forest Service intends to close these roads to comply to the AFRPR, we recommend that roads be closed using methods that comply with 11 AAC 95.320. If the Forest Service intends to maintain these road as inactive, then we recommend that they are maintained using practices consistent with AFRPR standards for inactive roads (11 AAC 95.315(c)).

Forest roads are significant contributors to the degradation of the aquatic ecosystem as sources of sediment. Consequently, the management (including adequate maintenance and potential rehabilitation) of the forest roadway system is a critical element in achieving the goals and objectives presented in Chapter 2 of the 1997 TLMP related to fish and water quality protection on the Tongass. The need to adequately address the issue of roads is evidenced by the presently proposed moratorium on road building in roadless areas throughout the National Forest system and the advance notice of proposed rulemaking issued by the Forest Service related to the development of a comprehensive roads policy. One of the driving forces behind the present roads policy reform effort is the lack of sufficient funding to ensure that the road system is adequately maintained. Page 3-247 indicates that money generated through timber harvesting will finance "maintenance concerns identified within the Project Area." Because road maintenance efforts in the Sea Level project area will apparently be directly associated with/part of the proposed project, the EIS should be revised to identify the "maintenance concerns" to be addressed using proceeds from the sale, the estimated costs of those efforts, and other potential funding sources (in the event that maintenance costs exceed funds provided by the timber sale). We believe that the continued construction of roads that cannot be maintained to ensure adequate protection of natural resources is inconsistent with the fish and water quality protection goals of TLMP, as well as the current Forest Service roads policy reform effort.

EPA
#20

The US Army Corps of Engineers (Corps) has indicated in its comments on recent Tongass timber sale EISs that the exemption from regulation under Section 404 of the Clean Water Act granted to the construction and maintenance of forest roads is only applicable to roads which would be used solely for normal silvicultural activities, such as harvesting trees. Because the Forest Service is presently proposing to keep some main trunk roads open upon completion of timber harvesting activities, construction of such roads would appear to require a Corps authorization by issuance of a permit. We recommend that the Forest Service contact the Corps

EPA
#21

Letter #3: U.S. Environmental Protection Agency, page 8

as soon as possible to determine if the exemption granted under §404(f) of the Clean Water Act is applicable to such roads. If §404 permits would be required, they should be obtained concurrent with the development of the final EIS to satisfy 40 CFR 1500.2(c).

EPA
#21**Ecological Landtypes**

Information in Table Ecological-5 regarding acres of MMI4 soils in the project area do not agree with the Unit Cards 164, 165, 166, and 167. We recommend that the EIS be revised to correct this discrepancy.

EPA
#22**Forest Service Response to EPA 19:**

The purchaser of the timber associated with the Upper Carroll EIS, that was tributary to the Shelter Cove LTF, has chosen to use an alternate facility for transfer of the logs to water. Use of an alternate facility, on non-National Forest System lands, has reduced the impacts on the Shelter Cove LTF site to what was originally displayed in the Draft EIS. The Final EIS will discuss and explain these changes in implementation to adequately display the impacts for this Project.

Forest Service Response to EPA 20:

The access management plan for this Area will require that all new constructed roads will be closed upon completion of silvicultural activities. In addition some existing roads will be closed. The Forest Service does plan to periodically monitor all roads that are considered "inactive" according to the AFRPA. During the first 1 to 3 years after roads are constructed and still open, maintenance problem areas can be identified and corrected before the roads are closed. These areas and all other roads will then be monitored whether the road is in "inactive" status or "closed" status. The roads will then be maintained in accordance with BMP's.

Forest Service Response to EPA 21:

At interagency meetings, prior to release of the Draft EIS, the status and use of roads was discussed with representatives of the U.S. Army Corp. of Engineers in regards to wetlands and 404 permitting. It is our understanding that as long as new roads are to be used for silvicultural purposes only they are exempt and that existing roads are also exempt as long as the "footprint" of the road on wetlands is not changed. Any upgrade of an existing road that alters the footprint due to the change in use would require a permit. The Memorandum of Agreement (MOA) is currently in the final draft stages.

Forest Service Response to EPA 22:

This information has been clarified in the Final EIS.

G Appendix

Letter #4: U.S. Department of Interior Fish and Wildlife Service, page 1



United States Department of the Interior

OFFICE OF THE SECRETARY
Office of Environmental Policy and Compliance
1689 C Street, Room 119
Anchorage, Alaska 99501-5128

ER 98/354

August 6, 1998

Mr. Brad Powell, Forest Supervisor
Tongass National Forest - Ketchikan Area
Attention: Sea Level Draft EIS
Federal Building
Ketchikan, Alaska 99901

Dear Mr. Powell:

In response to your May 5, 1998 request, we have reviewed the Draft Environmental Impact Statement (EIS) for the proposed Sea Level Timber Sale in Carroll Inlet and Thorne Arm on Revillagigedo Island near Ketchikan, Alaska. The U.S. Forest Service (USFS) proposes harvesting up to 60 million board feet of timber from this portion of the Tongass National Forest. We offer the following comments for your consideration.

In June of 1998, a U.S. Fish and Wildlife Service (FWS) biologist visited the project area with personnel from the USFS and the Alaska Department of Fish and Game (ADFG). We appreciate the logistical support provided by the USFS to make the visit possible. Many of the issues and recommendations presented here were discussed during the visit.

We are primarily concerned with the impact of the proposed action on fish and wildlife habitat and populations and the resulting potential impacts on fish and wildlife-oriented recreation and subsistence uses. Issues of particular interest include those related to old growth habitat and connectivity, road management, and wolf and deer populations.

OLD GROWTH RESERVES AND CONNECTIVITY

We believe that some of the Old Growth Reserves (OGRs) in the project area could eventually become isolated, reducing habitat value for some old growth-dependent species if connectivity with other old growth stands is not maintained. It is important to manage the highly fragmented forested areas between OGRs so those areas do not become isolated patches unable to sustain old-growth dependent wildlife populations or contribute to a landscape strategy. Habitat connectivity is an important component of a landscape conservation strategy (Kiestler and Eckhardt 1994, Lidicker 1995). Corridors of undisturbed old growth habitat connecting the various non-development Land Use Designations (LUDs) allow movement of animals between these increasingly fragmented islands of habitat. Therefore, we recommend maintaining maximum connectivity between OGRs and other natural settings in the project area (Tongass Land Management Plan (TLMP); Wildlife Forest-wide Standards and Guidelines, p. 4-120).

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FOREST SUPERVISOR OFFICE	
ROUTE	
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	REC & LANDS
	TIMBER
	CRAIG RD
	KETCHIKAN RD
	MISTY FIORDS NM
	THORNE BAY RD
	OTHER

FWS
#1

Forest Service Response to FWS 1:

The TLMP standards and guidelines for maintaining connectivity between old-growth habitat reserves, have been incorporated into the Selected Alternative. See also the Forest Service Response to Comment FWS 2, for further discussion.

Forest Service Response to FWS 2:

Harvest is excluded from or avoids important high-value habitat areas such as beach-fringe areas (1,000-foot beach-fringe buffers have been implemented), areas around identified eagle nests (330-foot buffers), riparian floodplains, estuary buffers (1000 foot buffers), etc. These issues within the broader issue of high-value habitat areas were part of the formulation of all alternatives and were tracked through the Final EIS for analysis of possible impacts.

The beach fringe previously harvested in the Project Area was taken into consideration during planning. As a result, additional corridors were identified in the Draft EIS to compensate for young-growth beach fringe. This was displayed in the Draft EIS on the map on page 3-78 and discussed on page 3-79.

After an interagency visit to the Project Area with biologists from the ADF&G, the U.S. Fish and Wildlife Service, and the Forest Service, the corridor between Gnat Cove and Thorne Arm was redesigned for the Selected Alternative in the Final EIS. It was relocated through Units 173 and 174. It would then connect to the newly relocated small old-growth habitat reserve in VCU 7560 (see the Forest Service Response to Comment ADFG 8). We feel this would better maintain connectivity because the area contains higher value habitat than the area identified in the Draft EIS.

The significance of the beach fringe as a major component of the wildlife corridor system between OGRs and other non-development LUDs is described in the TLMP (Beach and Estuary Fringe Forest-wide Standards and Guidelines, p. 4-4). Much of the timber within the 1,000-foot beach fringe of this project area has been harvested. Second growth forest in the beach fringe decreases the habitat values of the fringe and its functionality as a connecting corridor between OGRs. Thus, we recommend maintaining high quality habitat connectivity between OGRs to compensate for habitat lost during previous timber harvests. We believe that deleting the following timber harvest units from the unit pool described in the Final EIS will help to maintain connectivity:

- Units 5 and 60--to maintain connectivity between the OGR in Value Comparison Unit (VCU) 7530 and the Peninsula formed by Carroll Inlet and Thorne Arm (Peninsula). This drainage has been extensively harvested on each side, and the harvesting of these units would separate the connection described.
- Units 46, 48, 59, 128, 139, and 140--because of their proximity to the Misty Fiords National Monument. Unit 59 borders on Misty Fiords and harvest of the unit would compromise the connectivity of the OGR in VCU 7530 and Misty Fiords. Harvest of units 46 and 48 would compromise the Fish Creek Wild and Scenic River designation by encroaching within the quarter mile buffer required by this designation. Harvest of units 128, 139, and 140 would compromise the connectivity between the Sea Level Creek drainage and Misty Fiords by allowing timber harvest near the low elevation passes between the two, all of which are classic examples of wildlife corridors.
- Units 171 and 172--because these areas are included in the newly proposed OGR recommended by an interagency team (see New OGR Proposal). To maintain the integrity of the proposed OGR and the connectivity of the OGR at the southern tip of the Peninsula with the remainder of the project area east of Carroll Inlet, we also recommend deleting units 173 and 174.
- Unit 37--because the beach fringe adjacent to this unit has been previously harvested, and the harvest of this unit would further fragment connectivity in this area of the Peninsula.
- Units 29, 31, 32, 33, and 34--since the harvest of these units would further fragment the connectivity in this area of the Peninsula.

FWS
#2

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The interagency Tongass Plan Implementation Team is working to clarify the standards and guidelines that address landscape connectivity, and specifically corridor design, so that corridors are "... of sufficient width to minimize edge effect and provide interior forest conditions" (see TLMP, Wildlife Forest-wide Standards and Guidelines, p. 4-120). We suggest that in the Final EIS a 1,000-foot minimum forested corridor be maintained, where possible, to provide interior forest conditions and wind firmness protection.

Forest Service Response to FWS 3:

An interagency group of biologists from the ADF&G, the U.S. Fish and Wildlife Service, and the Forest Service recommended dropping these units to maintain connecting corridors. Alternative 2 in the Final EIS still contains Units 59 and 60. The Final EIS Selected Alternative does not propose harvesting these units.

Forest Service Response to FWS 4:

In the Final EIS, Alternatives 5 and 7 do not propose harvesting Units 127, 128, 139, and 140. Alternative 2 proposes harvesting these units. Harvest of Units 127, 128, 139, and 140 is consistent with TLMP standards and guidelines. The ROD Selected Alternative for the Sea Level Project documents that these units will not be harvested.

Unit 48 has been dropped from all alternatives because of its proximity to a proposed wildlife-habitat connectivity corridor, immediately adjacent to the Fish Creek and Lake System, which the Forest Service has recommended for designation as a Wild and Scenic River (TLMP ROD, 1997, page A3).

Unit 48 is not within the buffer as mentioned. Although Unit 46 and Unit 59 appear to encroach upon the ¼-mile-wide corridor buffer, the units, if selected for harvest and laid out, would not, and could not encroach upon the ¼-mile-wide corridor. Unit 46 and Unit 59 are not included in the Selected Alternative.

Forest Service Response to FWS 5:

The old-growth reserve at Mop Point (VCU 7560) has been relocated to the vicinity of Units 171 and 172 (south of Gnat Cove) in our Selected Alternative (Alternative 7) for the Final EIS. An interagency group of biologists from the ADF&G, the U.S. Fish and Wildlife Service and the Forest Service reached consensus on this new location during a field review on 6/10/98. The group recommended relocating this small old-growth habitat reserve.

Forest Service Response to FWS 6:

Unit 37 is included in the Final EIS Selected Alternative. This unit is included in the Selected Alternative because it is felt that the designated corridors and beach and estuary buffers adequately provide for habitat connectivity as required in the TLMP old-growth strategy. According to the TPIT clarification, connectivity need only be provided in one direction, and the relocation of the small old-growth reserve south of Gnat Cove helps provide that connectivity along the beach fringe on the west side of the peninsula, then northeast from Shoal Cove and into the small old-growth reserve and Misty Fiords beyond.

Forest Service Response to FWS 7:

In the Final EIS, Alternatives 2 and the Selected Alternative (Alternative 7) include all these except Unit 34, and are consistent with TLMP standards and guidelines. These units were not included in Alternative 5. These units are included in the Selected Alternative because it is felt that the designated corridors and beach and estuary fringe buffers adequately provide for habitat connectivity as required in the TLMP viable-population strategy. See the Forest Service Response to FWS 6.

Forest Service Response to FWS 8:

We used the guidance set forth by the TPIT (1998) to identify additional wildlife corridors. We felt these corridors were necessary due to the large area of harvested beach fringe north of Shoal Cove, the age of which reduces its effectiveness as a corridor. We used a width of 1,000 feet as a general guide for establishing connecting corridors between medium and large old-growth habitat reserves and nondevelopment LUDs. However, in some places they are wider than 1,000 feet, and in some places they are less than 1,000 feet. In some instances, previously harvested areas were less than 1,000 feet apart, which created a "bottle neck" of less than 1,000 feet. Still, it was felt that locating the corridors in these areas, mostly along valley bottoms and low-elevation passes, was superior to alternative locations along the hillsides even though they may have contained less of a "bottle neck".

NEW OLD GROWTH RESERVE PROPOSAL

While in the field in June 1998, the interagency team investigated most of the OGRs in the Sea Level Timber Sale area. Much of the project area was harvested previously, making the siting of small OGRs difficult. The team reached consensus on the small OGRs mapped for VCU 7460, 7530, 7552, and 7570--provided the units described above were deleted to maintain OGR connectivity. However, the team recommended moving the small OGR identified for VCU 7560 from the Mop Point area to an area on the peninsula west of Snipe Island. The team is currently working to define the new boundaries for this proposed OGR, which, we believe, should be reflected in the Final EIS. The FWS will provide a letter recommending specific boundaries upon completion of this collaborative effort.

FWS
#9

The interagency team recommended the above change to VCU 7560 for the following reasons:

1. The new proposed OGR has higher quality old growth habitat per acre;
2. The proposed OGR would better maintain connectivity between the OGR on the southern end of the Peninsula and the rest of the project area east of Carroll Inlet;
3. The proposed OGR would help minimize further fragmentation of the Peninsula, particularly given the heavily fragmented area east of Gnat Cove; and
4. The new location would help maintain options for the future should the encumbered lands that comprise the majority of the OGR at the southern end of the Peninsula become private land.

ENCUMBERED LANDS

Unfortunately, some old growth reserves were established in areas that may be subject to conveyance into private ownership. In some cases, the selected land may involve the only extant high quality wildlife habitat in a particular area. Thus, potential loss of these habitat areas to logging or other development activities constitutes a threat to maintaining the integrity of the OGR strategy. This issue is particularly critical on islands where wildlife dispersal is geographically impeded. For example, the OGR on the southern tip of the Peninsula falls into this category.

FWS
#10

We suggest, in the Final EIS, establishing the small OGR proposed for VCU 7560, which would help maintain management options for this Peninsula should the encumbered lands be conveyed. If the USFS does not agree to this modification, we recommend that the Final EIS include a risk analysis, done in consultation with the FWS and the ADFG, to examine the possible effects this or other such conveyances would have on the old growth strategy. This interagency analysis could also develop solutions to reestablish components of the strategy lost through such a transfer.

Letter #4: U.S. Department of Interior Fish and Wildlife Service, page 4

We maintain that fish and wildlife values of the encumbered lands west of Carroll Inlet in VCU 7530 are of greater importance "as is," from an ecosystem management perspective, particularly following the timber harvest that occurred on the adjacent Native corporation lands.

We believe that the Timber Harvest Economics and Supply portion of the Final EIS should fully address the fact that timber receipts for units sold on these lands are kept in escrow and, therefore, do not provide a return to the Treasury.

FWS
#10**NON-NATIONAL FOREST LANDS**

It is not clear whether the extensive timber harvest that occurred on Native corporation lands, stretching from Carroll Inlet to and along George Inlet, was incorporated into the cumulative effects analysis. If not, we suggest that the cumulative effects analysis in the Final EIS incorporate the impact of non-national forest land management activities adjacent to the project area because extensive timber harvest on Native lands has bearing on management of adjacent USFS lands, particularly from an ecosystem management standpoint.

FWS
#11**ROADS**

Roads are problematic for fish and wildlife populations in a number of ways, particularly if they are not regularly maintained or effectively closed. Roads increase human access to remote or less accessible areas, often contributing to the harvest of fish and wildlife species at unsustainable levels. Unmaintained roads often deteriorate and cause siltation problems in fish habitat. Culverts may fail or become plugged or perched, causing fish passage problems.

High road densities occur in the Sea Level project area, some exceeding densities that are problematic to maintaining wolf populations elsewhere in southeast Alaska (Person et al. 1996). The Draft EIS indicates that existing and proposed road densities are not considered significant because there is no permanent settlement currently connected to the road system on Revillagigedo Island. The Draft EIS further states that the road system in the project area receives very little use by trappers and hunters.

FWS
#12

While we concur that road systems not connected to population centers may be less accessible for human use, the FWS has observed high use of remote road systems on islands not connected to communities. Examples include remote road systems on Zarembo, Baranof, Chichagof, Kruzof, and Kuiu Islands. Personnel from the USFS and the U.S. Coast Guard LORAN facility at Shoal Cove report high usage of the road system in the project area by Ketchikan residents, primarily during the deer hunting season. We suggest that the Final EIS include an effective road closure plan for all alternatives for the Sea Level Timber Sale area to maintain a road density below 0.7 miles of road per square mile, as addressed by Person et al. (1996).

Some methods of road closure used in the Tongass National Forest, such as gates, have not precluded continued use of roads by motorized vehicles, particularly by off-road vehicles.

FWS
#13

Forest Service Response to FWS 9:

The old-growth reserve at Mop Point (VCU 7560) has been moved to the vicinity of Units 171 and 172 (south of Gnat Cove) in our Selected Alternative (Alternative 7) for the Final EIS.

Forest Service Response to FWS 10:

The recommendations from the June 1998 interagency meeting have been incorporated into the Final EIS Selected Alternative. One of the reasons for this is to maintain existing options should part of the Carroll Point Old-Growth Habitat Reserve be conveyed to other ownership. This was also one of the reasons for the relocation of the small Old Growth Habitat Reserve in VCU 7560 south of Gnat Cove; also part of the Selected Alternative.

The comment on the habitat value of encumbered lands west of Carroll Inlet in VCU 7530 is noted and has been considered in the decision process.

The last part of this comment involving placing timber receipts in escrow with the result of a nonreturn to the Treasury is only partially true. In the worst case scenario acreage would be harvested on encumbered land, and the acreage then conveyed, resulting in timber receipts being transferred to the recipient of the conveyance. Otherwise the receipts would be returned with interest to the Treasury upon termination of the selection period. The Forest Service has, in the past, been in close communication with potential recipients of encumbered-land harvest receipts and entered into agreement prior to advertising and subsequent award of timber sales thereby avoiding the escrow of timber receipts. There is history of these agreements in the specific area where units coincide with encumbrance.

Forest Service Response to FWS 11:

The analysis of impacts to wildlife, incorporated non-National Forest Lands. For example, habitat-capability models assumed a maximum impact on private lands and assumed a habitat capability of zero for those areas for cumulative effects (page 3-158, Sea Level Draft EIS). The fragmentation analysis took into account those non-National Forest Lands known to be harvested. Harvesting on non-National Forest lands has also been incorporated into the wildlife analysis in the Final EIS.

Forest Service Response to FWS 12:

All action alternatives in the Draft EIS except Alternative 2 maintain open-road densities below 0.7 miles per square mile as addressed by Person, et al. (1996) (see Table Wildlife-12, page 3-180, Sea Level Draft EIS). This analysis and information is displayed in the Final EIS as well. The Selected Alternative in the Final EIS maintains an open-road density of 0.57 miles per square mile. Most new roads and some existing roads will be closed with physical barriers.

Forest Service Response to FWS 13:

The road systems involved in this Project are not connected to any public road system or community, so motorized vehicle road use will be minimal. All newly constructed roads are planned to be closed with physical barriers upon completion of silvicultural activities. Some of these roads and some previously existing roads will be closed by AFRPR definitions which require removal of all drainage structures. For closed roads left in an "inactive" status, the roads will be closed with a physical barrier, water barred and seeded with grass seed.

Forest Service Response to FWS 14:

The Forest Service disagrees with this assessment. The Sea Level Timber Sale and a proposed Shelter Cove Road connection are entirely separate actions. The Shelter Cove Road connection is, however, a reasonably foreseeable action, and as such, the cumulative effects of this action upon subsistence use in the Project Area is analyzed in the Marine Environment section of Chapter 3. The road management objectives for the Sea Level road system are described in Appendix D of the Final EIS.

Forest Service Response to FWS 15:

The Snipe Point LTF (Thorne Arm 5) was last used in 1993 and 1994. Our records show that this was a slide type of facility with bundles of logs deposited directly into the water from an endloader via a log slide. This Project does not intend to use the Snipe Point LTF due to the difficulty in watering logs and holding log rafts in the area. The road system tributary to the Snipe Point LTF is also connected by road to the Shoal Cove LTF. With a permitted site already available and the fact that impacts at the Snipe Point LTF have lessened over time, the efforts involved in acquiring a new permit for the site are not warranted now.

Letter #4: U.S. Department of Interior Fish and Wildlife Service, page 5

Monitoring efforts, in which the FWS participated, show inconsistent approaches to “closing” roads. In addition, once the public becomes accustomed to road access, road closure is frequently difficult, even when scheduled during planning. Road obliteration or establishing a physical barrier to all vehicular access may be the most effective method of reducing future impacts from increased human access to previously inaccessible areas. We recommend that, in the road closure plans in the Final EIS, culverts be removed on abandoned roads remaining after timber harvest. Culverts left in place are likely to become plugged with debris, often causing mass failures of the roadbed and siltation of downslope waterways. Sowing the roadbeds with alder seed can accelerate alder growth. We further suggest either direct seeding or cutting alder branches in the fall and spreading them on closed roadbeds to serve as a seed source.

FWS
#13**KETCHIKAN-SHELTER COVE TRANSPORTATION LINK**

We are concerned about the proposed road connection between the City of Ketchikan and the Shelter Cove road system on the west side of Carroll Inlet. We disagree that the Sea Level Timber Sale and the road connection proposal are entirely separate actions. Although both projects could proceed independently, the impact of additional interconnected roads and timber harvest in the Shelter Cove area as a result of the Sea Level project would adversely impact fish and wildlife resources that would become more accessible to Ketchikan residents and other user groups. For example, the Sea Level Timber Sale would reduce habitat for game animals, may negatively impact fish streams, expand the existing road system, and alter scenic view sheds. We concur that completing the link between the Ketchikan and Shelter Cove road systems may have dramatic negative effects on fish and wildlife populations in the Shelter Cove area. Therefore, we recommend that the Final EIS include an aggressive road closure plan for the Sea Level Timber Sale project to protect important fish and wildlife habitats made vulnerable if human access is increased. Closing the existing and proposed roads after connecting Ketchikan and the Shelter Cove road system would be far more difficult, if not impossible.

FWS
#14**LOG TRANSFER FACILITIES**

Log Transfer Facilities (LTF) are incorrectly marked on the Existing Condition Map and Unit Pool provided with the Draft EIS. This error should be corrected in the Final EIS. We support continued use of existing LTFs in the sale area.

FWS
#15

The FWS conducted a dive survey (report forthcoming) at the barge-style LTF near Snipe Island, on the Peninsula, during the June 1998 interagency field trip. The intent was to assess what impacts, if any, may persist from historic use. Barge-style LTFs are generally considered more environmentally benign than other LTF designs because logs are loaded directly onto a barge rather than being placed into the water; it is assumed that less bark deposition would occur at barge LTFs. Some bark deposits were found at the Snipe Island area barge LTF, although deposits were nominal compared with other sites in southeast Alaska. This LTF appeared to be in good condition and was engineered to minimize the amount of intertidal fill. The FWS recommends that this site be used consistent with past use, with no expansion of the facility. As

an alternative, we recommend the Final EIS advocate helicopter yarding directly to barges, avoiding both intertidal fills and placement of logs in the water.

FWS
#15

UNSUITABLE LANDS

A number of the proposed timber harvest units contain lands described in the revised TLMP as unsuitable for timber harvest, primarily because they are on slopes greater than 72 percent and have soils with a high mass movement soil index. Harvesting timber in these areas creates a high risk of landslides, degrading downstream water quality and important fish habitat and causing decreased habitat values in adjacent forested acres. Small inclusions of these acres in units may be inevitable in some areas of southeast Alaska. At least 6 units (75, 76, 203, 205, 214, and 229) in the sale area contain more than 5 acres of forest with slopes greater than 72 percent. Unit 75 alone contains 34 acres of land with slopes greater than 72 percent. Since these acres are unsuitable for timber harvest, we suggest that they be removed from the proposed timber harvest units in the Final EIS.

FWS
#16

MARbled MURRELET

The Draft EIS concludes that the sale may negatively affect individual murrelets, "...but will have no effect on population viability." We believe that this and other area timber sales have or would negatively impact individual birds and likely result in local population declines. We suggest that the Final EIS identify the context (i.e., legal, geographic, etc.) in which viability determinations were made, as well as clarify the information available and reasons for the conclusion.

FWS
#17

HARLEQUIN DUCK

The Draft EIS concludes that individual harlequin ducks may be negatively affected by the sale, but that the project "...will not cause a trend towards listing." As discussed in our comments for the marbled murrelet above, we expect that this and other area timber sales have or would negatively impact individual ducks, and can be expected to cause local population declines. We suggest that the Final EIS explain how the viability determinations were made, address the information available for this species, and clarify the reasons for the conclusion.

FWS
#18

ALEXANDER ARCHIPELAGO WOLF

We concur with your analysis and conclusion that wolf populations may decline in the project area due to the reduction in deer habitat capability, and the increased harvest of wolves with an expanding road system. We also concur that this emphasizes the importance of maintaining connectivity in the project area between elements of the old growth strategy. We again emphasize the importance of an aggressive road closure plan for the Sea Level Timber Sale project area.

FWS
#19

Forest Service Response to FWS 16:

This issue was previously responded to in Forest Service Response to ADEC 24.

Forest Service Response to FWS 17:

The section on marbled murrelets in the Biological Evaluation (Appendix C) has been revisited and updated for the Final EIS. The determination that this Project will not effect marbled-murrelet population viability is made in the context of the total Southeast Alaska Population. We believe this project will not cause a trend toward listing the species due to the large overall murrelet population in Southeast Alaska. However, murrelets within the Project Area probably will be affected by timber harvesting and local populations within the Project Area may be reduced. Based on your comment, the determination was changed from "no effect" to "may affect" due to possible cumulative effects when combined with other similar projects.

Forest Service Response to FWS 18:

The section on harlequin ducks in the Biological Evaluation has been revisited and updated for the Final EIS. We still feel that our stream buffer standards and guidelines from the TLMP (1997) will adequately protect nesting habitat. Also, nesting in the Project Area is infrequent and they winter mostly on the salt-water bays and inlets. This resulted in our determination that the Sea Level Project will not cause a trend towards listing for this species.

Forest Service Response to FWS 19:

Your comment is noted.

Letter #4: U.S. Department of Interior Fish and Wildlife Service, page 7

We are concerned about the high road densities in the project area and how those densities relate to marten harvest. As discussed under the ROADS section above, we recommend an aggressive road closure plan for the project area to avoid unsustainable levels of marten trapping/harvest.

FWS
#20

BAND-TAILED PIGEON

During the interagency field trip in June, the team observed four pairs of band-tailed pigeons exhibiting courtship behavior along the switch-back road in T73S, R93E, Section 18. We are not aware of any records of these birds breeding in the Tongass National Forest. As you continue field reconnaissance for this project, we recommend revisiting this area in an attempt to document any successful nesting of these locally rare southeast Alaska migrants.

FWS
#21

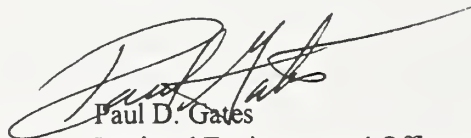
SUMMARY

We are primarily concerned with the effects of the proposed timber sale on fish and wildlife habitats and populations, as well as impacts on fish and wildlife-oriented recreation and subsistence use. Previous timber harvest in the Sea Level Timber Sale area significantly reduced the amount of old growth habitat, compromising much of the landscape connectivity between the remaining blocks of old growth. Alternative 4, we believe, best captures the recommendations in this letter, and with a little modification could achieve the recommendations resulting from the interagency field review of the project area. Alternative 4 is also more economical than Alternative 3, the USFS preferred alternative.

FWS
#22

We appreciate the opportunity to participate in the planning of the Sea Level Timber Sale Project. Please contact Ed Grossman of the Fish and Wildlife Service's Field Office at (907) 586-7240 if you have any questions concerning the above comments.

Sincerely,



Paul D. Gates
Regional Environmental Officer - Alaska

Forest Service Response to FWS 20:

Your comment is noted. Road density effects are discussed in the Draft EIS (page 3-174 and 3-175, Table Wildlife-10) and are included in the discussion about effects on marten in the Wildlife Section (Chapter 3, Final EIS).

Forest Service Response to FWS 21:

A discussion on band-tailed pigeons has been added to the Biological Evaluation in the Final EIS under Other Species of Concern. None of the alternatives propose timber harvest where the band-tailed pigeons were observed. Units 88, 89, and 90 are within a mile of the sighting and have the highest potential for impacting band-tailed pigeons. Please refer to the Biological Evaluation (Appendix C) for further information on band-tailed pigeons. We were unable to revisit the site to confirm nesting band-tailed pigeons prior to publication.

Forest Service Response to FWS 22:

The Forest Service has noted your comments and recommendations.

Letter #5: Southeast Alaska Conservation Council, page 1



Brad Powell Forest Supervisor
Tongass National Forest, Ketchikan Area
Attn: Sea Level DEIS
Federal Building
Ketchikan, AK 99901

Dear Mr. Powell:

The following comments are submitted by the Southeast Alaska Conservation Council (SEACC) on the Sea Level Draft Environmental Impact Statement (DEIS). SEACC is a coalition of 16 volunteer citizen organizations located in 13 communities throughout Southeast Alaska. Our members include commercial and sport fishermen, Alaska Natives, small-scale independent timber operators and value-added wood manufacturers, sport hunters and professional guides, subsistence users, tourism and recreation business owners and Alaskans from many other walks of life.

SEACC is dedicated to preserving the integrity of Southeast Alaska's unsurpassed natural environment while providing for the balanced, sustainable, use of our region's resources. Southeast Alaska contains magnificent old-growth forests, outstanding fish and wildlife habitat, vital customary and traditional use or subsistence areas, excellent air quality and a landscape that allows Alaskans to live a lifestyle no longer available to most Americans.

I. THE FOREST SERVICE IS FAILING TO FACILITATE A TRANSITION TO A NEW TONGASS TIMBER INDUSTRY

SEACC is extremely disappointed that the Forest Service has done very little in this planning process to facilitate transition to a new Tongass timber industry based on local, small-scale, high value-added wood product manufacturing. The Sea Level Project is a relic from a bygone era when pulp mills and long-term contracts demanded huge, remote, road intensive sales. It cannot be "tweaked" in order to protect fish, wildlife, and provide economic wood to a new smaller scale, community based high value added industry. The Sea Level Project should start over again from the beginning.

SEACC
#1

USDA FOREST SERVICE KETCHIKAN AREA	
AUG 10 1998	
info@seacc.org	
FOREST SUPERVISOR OFFICE	
ROUTE	
①	FS
	DFS
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	PLANNING/IRM
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	TIMBER
	CRAIG RD
	KETCHIKAN RD
	MISTY FLOORS NM
	THORNE BAY RD
	OTHER

The Sea Level project, with its reliance on its high level of clearcutting and road building stands in stark contrast to the preliminary planning efforts now underway elsewhere on the Ketchikan ranger district. The Cleveland Peninsula Collaborative Stewardship program, a welcome attempt to define community needs and desires before moving ahead with planning in the Cleveland Peninsula area, could possibly work for a place like the Sea Level Project as well. The poor performance of the Alaska wood products industry's traditional markets, and the backlog of available timber, gives the Forest Service the window of opportunity to drastically alter and improve the Sea Level project. This is perfect time for the Forest Service to drop their timber target, go back into planning process, and tap the knowledge of Ketchikan residents using the principles of collaborative stewardship outlined in TLMP.

According to the Record of Decision for the Revised TLMP (at 42):

"Collaborative stewardship means bringing people together to share in the decision making in implementing forest plan direction.

The Forest Plan land use allocations and direction have some flexibility. Interaction among interested people within the communities can lead to mutually acceptable resolution of resource use issues. I am hopeful that such interaction and participation will lead to more local influence, better knowledge of forest activity, and fewer cases of appeals and litigation."

B. Failure to Apply All the Revised TLMP's Management Direction and Standards and Guidelines to This Sale is Unlawful.

The National Forest Management Act (NFMA) directs that all "[r]esource plans and permits, contracts and other instruments for the use and occupancy of National Forest System lands shall be consistent with the land management plans." 16 U.S.C. § 1604(I). Those plans, permits and contracts "currently in existence shall be revised as soon as practicable." *Id.*; 36 C.F.R. § 219.10(e).

The DEIS, however, relies on direction in the ROD for the Revised TLMP that identifies the Sea Level timber sale as a Category 3 project. The Forest Service lacks the discretion to exempt this particular project from specific standards and guidelines adopted in the revised TLMP. Moreover, the agency is mistaken in treating the Sea Level Project as a Category 3 project. The Notice of Intent for this timber sale was published in the Federal Register on May 9, 1997. The Tongass Land Management Plan Record of Decision was signed, **two weeks later on May 23, 1997**. Moreover, the comment period for the Sea Level Scoping Notice did not conclude until **June 15, 1997**, more than two full weeks after the signing of TLMP ROD. It is completely disingenuous to claim that this is a "timber sale project[] now being planned..." when the public planning process had just begun.

SEACC
#2

SEACC
#3

Letter #5: Southeast Alaska Conservation Council, page 3

The DEIS claims that new wildlife measures were incorporated into the Sea Level project and, "All alternatives result in impacts consistent with the implementation of TLMP (1997) and the standards and the Forest Wide Standards and Guidelines...." DEIS at 2-14. However, the DEIS fails to disclose what specific measures were adopted, or if not, why not. For example, although the DEIS evaluates the effect of applying the new standards and guidelines for marten, the DEIS does not identify how these standards and guidelines will be applied at the site-specific unit level. This omission violates NEPA because it prevents the Forest Service from demonstrating its compliance with the Revised TLMP on the site-specific level.

The importance of applying all the Revised TLMP's standards and guidelines to this project is heightened given the numerous appeals filed on the revised forest plan. See SEACC's Appeal of the Revised TLMP, No. 97-13-00-0101 (Sept. 25, 1997). Many of the prominent problems with the Sea Level DEIS are directly traceable to the newly revised TLMP.¹ The DEIS relies on and tiers to the revised TLMP. See DEIS at 1-9. SEACC sought and expected a very different TLMP, one that capitalized on the end of the long-term pulp mill contracts to move the Forest in a new direction and would have made the current proposal for the Sea Level timber sale project unthinkable. We appealed TLMP to the Chief of the Forest Service, asking for major changes. These comments on the DEIS for the Sea Level timber sale rely on, tier to, and incorporate by reference our TLMP appeal.² We further incorporate into the project record the administrative stay request (and attached exhibits), dated July 31, 1998, filed by SEACC and several other conservation organizations with the Chief of the Forest Service.³

SEACC
#3

One of the issues raised in SEACC's appeal, and others, as well as the recent stay request, was the adequacy of the forest-wide reserve system and standards and guidelines adopted to safeguard wildlife habitat and populations. In light of the sweeping goals and policies of NEPA, this supplemental planning process should provided the Chief of the Forest Service with a project-level assessment of the effects from applying the Revised TLMP's wildlife habitat conservation strategy. The failure to take a hard look at the effect of all the new standards and guidelines on the Sea Level project prevents the Chief from using the information and analysis from this planning process when evaluating these critical appeal issues.

Given that "[a]dherence to Forest Plan objectives and standards is an essential component of Forest Plan implementation," DEIS at 2-4, the Forest Service must show that updating the Sea Level project to comply with all management requirements of the Revised TLMP is not "practicable." The DEIS does not do so. The Forest Service had 11 months between adoption of the Revised TLMP and release of the DEIS. In addition, the DEIS reveals that there is a

¹ The revised TLMP, which set the ground rules, expectations, and issues for timber sales, was adopted two weeks after the Notice of Intent for the Sea Level timber sale was issued and weeks ahead of the deadline for the public submitting scoping comments on this proposed sale.

² Specifically, we incorporate SEACC's Appeal, No. 97-13-00-0101, the intervenor comments filed by SEACC, along with all documents attached to and/or referenced therein. All of these filings, with their attachments, have been provided to Region 10 in the course of the TLMP appeal proceedings, and should be readily available to the Forest Supervisor.

³ A copy of the stay request (without exhibits) is attached to these comments. Also attached is our press release, "SEACC Calls For 'Time Out' on the Tongass."

substantial backlog of unlogged timber under contract. See DEIS at 1-7. The Forest Service therefore lacks a reasonable basis for taking the risk associated with not fully implementing all the new wildlife management standards for this project.

The DEIS further suggests that "new measures were conducted in a manner that is least disruptive to the design and implementation of these projects ..." One may expect that attempting to wrap standards and guidelines around a half completed plan, with a predetermined timber target, leads to flaws in the sale plan. **The Sea Level DEIS must disclose and evaluate each instance where the agency chose not to update this project in conformance with the requirements of the Revised TLMP.** Unless the agency does so, it will not satisfy NEPA's disclosure goals. See Idaho Sporting Congress v. Thomas, No. 97-35339, slip op. at 1814 (9th Cir. Mar. 4, 1998)(citations omitted).

SEACC
#3

II. THE PURPOSE AND NEED STATEMENT IN THE SEA LEVEL DEIS MISCONSTRUES THE BROAD AND PERMISSIVE NATURE OF THE REVISED TLMP.

A. Manipulating the Broad Goals and Objectives in TLMP to Achieve a Preconceived Outcome Violates NFMA.

According to the DEIS (at 1-6), the Sea Level project is "proposed at this time to move the Project Area toward the desired future condition and respond to the goals and objectives identified for the project area by TLMP (1997)." The Forest Service characterization of the "desired future conditions" for this project area, however, is inconsistent with the broad, permissive direction of the Revised TLMP. The Forest Service identified 18 "Forest-wide multiple use goals and objectives" in the Revised TLMP. According to TLMP, at 2-2, these "... goals are expressed in broad, general terms and specify no date by which they are to be accomplished."

SEACC
#4

Contrary to the broad direction of TLMP, the DEIS' Purpose and Need statement cites only selected TLMP goals and objectives consistent with the agency's preferred action of logging 42 mmbf and constructing 39 miles of new road, along with 18 miles of road reconstruction in the project area. Instead of defining the purpose and need for this project broadly to accomplish the forest-wide multiple-use goals and objectives of the plan for this area, the agency improperly focused on those goals and objectives consistent with its specific proposed action -- logging 42 million board feet (mmbf) of timber and constructing or reconstructing about 57 miles of road. The Forest Service cannot simply pick and choose which goals and objectives to adhere to.

The planners did not attempt to restrict the range of alternatives by identifying a specific timber target as this project's "purpose and need." However, defining the "purpose and need" by preferring only those forest multiple-use goals and objectives consistent with the agency's "proposed action," prevented the Forest Service from "... rigorously explor[ing] and objectively evaluat[ing] all reasonable alternatives," particularly the no-action alternative. See 40 C.F.R. 1502.14. Defining the proposed action, which is also the preferred alternative, as consistent with the "desired future condition" for this project area ignores the permissive nature of the Revised

Forest Service Response to SEACC 1:

The Forest Service has been active in leading the transition to a new timber industry in Southeast Alaska. The Ketchikan/Misty Ranger District offers small timber sales every season that range from a few trees to about two million board feet (MMBF). The District timber-sale program has historically concentrated on the independent-sale program and the staff has a history of working closely with timber operators to develop sales that meet the needs of the independent sales program. Small sales in this program have been sold in the Shelter Cove and Shoal Cove areas in the past and it is planned that similar sales will be offered in the future. The preliminary implementation planning for the Project Area indicates that the Selected Alternative in the ROD will be offered in at least six independent timber sales ranging from 1.5 to 15 MMBF volume. All timber sold under this Project can be used for value-added projects.

Forest Service Response to SEACC 2:

The public involvement process for the Sea Level EIS provided many opportunities for input by the public throughout the period of Project development. Project scoping began with publication of the Notice of Intent on May 9, 1997. This was followed by media information and open-house meetings in Ketchikan and Saxman. In addition briefings were held to provide information on issues and alternatives from April 1997 through February 1998 with individuals, local organizations, tribal, local, State and Federal government agencies. An open IDT meeting was held in October 1997 to facilitate public input and provide information about Project development. The Draft EIS was released to the public in June 1998 and the IDT collected public comment on the Draft EIS until mid-August. Subsistence hearings on the Draft EIS were held in Saxman and Metlakatla in July and August 1998. All of these opportunities to provide public input to the EIS were available to interested parties.

Forest Service Response to SEACC 3:

The proposed activities are fully consistent with the revised TLMP, standards and guidelines, and direction in the TLMP ROD. Unit-specific standards to maintain high-value marten habitat were met throughout the Project Area. The Marten Standards and Guidelines stress leaving residual trees and groups of trees within timber harvest units. These modifications were developed with direction from the Tongass Plan Implementation Team, and are described in Chapter 3 of the Final EIS.

Your comments on your appeal of the TLMP are noted.

Forest Service Response to SEACC 4:

The Project and all alternatives studied in the EIS are fully consistent with TLMP goals and objectives. Each alternative is a different approach, with different emphasis, to address different issues, while moving the area toward the desired future condition. Each land-use allocation with the Project Area has its own desired future condition. The Project is intended to help meet broad TLMP goals by moving the Project Area and those lands within the land-use allocations toward desired future conditions. Some TLMP goals cannot be met within certain land-use allocations. As an example, areas allocated to timber production would not be managed to meet the TLMP goals to "...manage designated Wilderness to maintain an enduring wilderness resource while providing for public access and uses consistent with the Wilderness Act..." Nor would we try to "...manage the timber resource for production of saw timber and other wood products..." on lands allocated to Wilderness. Goals are achieved by allocation of land to land-use designations, through implementation of standards and guidelines, and other activities conducted on the Forest (TLMP, page 2-2). We cannot meet all goals of the TLMP on every acre.

TLMP, and is also inconsistent with the fundamental principles of adaptive ecosystem management and collaborative stewardship that form the bedrock for the Revised TLMP. This violates NFMA.

According to the 1997 Tongass Land Management Plan, (ch. 2 p.3,) "Forest plan goals are responsive to identified public issues and resource use opportunities and collectively describe the desired conditions sought to be attained in the long run." The Forest Service must review all 18 goals and objectives outlined in TLMP, not the three that justify timber targets associated with the preferred alternative. TLMP states that, "Taken and considered together, goals represent management from an "ecosystem" perspective, where ecosystems are considered from the "site" to the "Forest" level." In the Revised TLMP (at 7-10), the agency defines "ecosystem" as: "A complete interacting system of organisms considered together with their environment;" and the term "ecosystem management" as, "The use of an ecological approach to land management to sustain diverse, healthy, and productive ecosystems."

SEACC
#4

B. The Forest Service Violates NEPA By Using the "Desired Future Condition" to Restrict the Range of Alternatives.

Consideration of alternatives is the "the heart of the environmental impact statement" Alaska Wilderness Recreation and Tourism Association v. Morrison, 67 F.3d 723, 729 (9th Cir. 1995) ("AWRTA") These alternatives must include no-action: "informed and meaningful consideration of alternatives - including the no-action alternative - is thus an integral part of the statutory theme." Bob Marshall Alliance v. Hodel, 852 F. 2d 1223, 1228 (9th Cir. 1988) cert. denied, 489 U.S. 1066 (1989) (emphasis added).

The Forest Service never actually compares the benefits of selecting the "no action" alternative. Instead, the Forest Service relies on "the proposed desired future condition for each LUD as described in the Forest Plan Revision," see e.g., DEIS at 1-6, to justify a lack of meaningful consideration of the no-action alternative. Certainly, neither Section 101 of the TTRA nor the Revised TLMP compel selection of an "action" alternative. See AWRTA, 67 F.3d at 730-31 (TTRA gives the Forest Service flexibility among multiple uses); City of Tenakee Springs v. Block, 778 F.2d 1402, 1406 (9th Cir. 1985)(Tongass Plan permissive only); Revised TLMP, App. L at L-150 ("The Forest Plan does not make site-specific decisions..."). Moreover, if the Revised TLMP is truly permissive and did not make site-specific decisions, then the desired future condition proposed for this project area in the TLMP is not an inflexible standard or preordained result used to define the proposed action at the project-level, but the product of that public planning process.

SEACC
#5

By stating in the purpose and need section that logging in the Sea Level project area is necessary to reach "desired future conditions," the Forest Service is not allowing for meaningful consideration of the no action alternative, therefore artificially restricting the range of alternatives. This violates NEPA, which says: "Agencies shall not commit resources prejudicing selection of alternatives before making a final decision." 40 C.F.R. §1502.2(f).

C. The Forest Service Must Eliminate the 42 mmbf Timber Target.

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Despite dropping a volume-specific Purpose and Need for the project, SEACC is concerned that the Forest Service is continuing to violate NEPA by pre-establishing the outcome of the Sea Level project planning process. See 40 C.F.R. § 1502.2(g). An alternative which doesn't require building new specified roads should have been considered. An alternative which permanently closed all roads and restored damaged areas in the Painted Creek (or Shoal Creek) watershed should have been considered. At a minimum, such closure should include pulling bridges and culverts, and crowning the road bed to prevent long-term sedimentation impacts.

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D. Necessary Road And Infrastructure Maintenance In No Way Justifies The Purpose And Need For A 42 Mmbf Timber Sale With 39 Miles Of New Specified Roads.

Incredibly the Forest Service attempts to justify the Purpose and Need for this project, which is, lest we forget, to clearcut and build roads, in order to fix old roads -- "...timber harvest infrastructure (roads, log transfer sites, and rock quarries) are in place or in need of maintenance to reduce potential resource damage..." See DEIS 1-8.

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The DEIS further states in Appendix A at A-1, "An infrastructure (roads, bridges, rock pits, log transfer facilities, etc.) is in place and is in need of maintenance to reduce potential resource damage. Eleven blocked fish passages will be fixed, one bridge will be replaced and nineteen water quality drainage structure failures will be corrected."

Timber sale planning requires mitigation measures to guarantee the continued maintenance of specified roads. The agency's failure to properly maintain these roads can not serve as an excuse to plan another timber sale that requires as many as 57 miles of new road. Obviously, the current budget or administrative process for road maintenance is inadequate and can not cover the cost of even the existing road system. There is no explanation or discussion on how these roads will be any different than the roads that are causing the previously mentioned failures. There is also no indication given of how these roads will be paid for. Considering the serious maintenance costs that would accompany the newly created specified roads, any action in this area will be extremely expensive.

III. THE AGENCY FAILS TO PROVIDE A REASONED BASIS FOR CONCLUDING THAT THIS TIMBER SALE IS NEEDED TO IMPLEMENT THE 1997 REVISED TLMP OR MEET MARKET DEMAND FOR TONGASS TIMBER.

A. The Forest Service Improperly Relies On TLMP Direction To Justify This Proposed Sale.

The Sea Level DEIS lacks an articulated rational basis. The DEIS identifies the primary "purpose and need" for this decision as "implement[ing] direction contained in the 1997 Tongass Land and Resource Management Plan (Forest Plan), to help provide a sustained level of timber supply to meet annual and Forest Plan Planning cycle market demand ..." DEIS at . TLMP, however, does not bind the Forest Service to offering

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Forest Service Response to SEACC 5:

In TLMP implementation, the desired future condition, when compared to the existing condition, helps to identify project opportunities. For example, Alternative 2 in the Draft EIS is one way of estimating how much timber harvest opportunity is available in the Area at this time under all TLMP standards and guidelines. The Sea Level IDT used this as an upper limit on the range of alternatives for the Project. The other alternatives, including the No-Action Alternative, are responses to significant issues identified during Project development. None of the alternatives in the Draft EIS had a predetermined volume target. The No-Action Alternative was considered in detail. The Final EIS states "This alternative serves as a baseline against which to measure the effects of the action alternatives." Also see the Forest Service Response to SEACC 4.

Forest Service Response to SEACC 6:

None of the alternatives in the Sea Level Draft EIS had a predetermined volume target. Project specific issues were identified in the planning process and a range of alternatives were formulated to address those issues. The No Action alternative was considered in detail. The proposed action for the Project indicated that as much as 60 MMBF of timber could be made available. The alternatives in the Final EIS for the Project range from 22 MMBF to 77 MMBF. The Selected Alternative would result in an output of approximately 51 MMBF. An alternative that considered no new road construction (Alternative C) was considered but eliminated from detailed study as it would not meet the purpose and need for the Project. Alternative 6 minimized new road construction and limited harvest in the Shelter Cove area. It was considered in detail in the Draft EIS but later dropped as not meeting the purpose and need for the Project. See also the Forest Service Response to EPA 4, EPA5, and SEACC 5.

Forest Service Response to SEACC 7:

This Project provides an opportunity to replace or maintain elements of the area's infrastructure, including roads, LTFs and stream-crossing structures. While this opportunity is not the sole rationale for proposing the Sea Level Project, it is viewed as a positive net benefit. Monitoring activities, including road-condition surveys, have identified a need for improvements to the infrastructure in the Project Area. Many of these problems will be corrected in a project that will take place whether or not an action alternative is selected for this Project. We are working to reduce road-maintenance backlogs as swiftly as possible given national direction and funding. See the Road Condition Surveys in the Roads and Facilities section in Chapter 3, for a comprehensive list of planned road-maintenance projects. New roads and other roads in the Project Area will have drainage structures removed and will be left in a "storm proofed" state, that is in compliance with standards and guidelines and the Alaska Forest Resource and Practices Act regulations.

The overall intent of this Project, as stated on page 1-6 of the Draft EIS, is to "...help move the existing forest condition toward the desired future condition." The desired future conditions, for the Timber Production, Modified Landscape, Scenic Viewshed and Old-Growth Habitat LUDs in the Project Area, are described in the TLMP. See also the Forest Service Response to EPA 4.

Forest Service Response to SEACC 8:

The primary "purpose and need" identified in the Draft EIS (Chapter 1, page 1-6) is "...to move the Project Area toward the desired future condition and respond to the goals and objectives identified for the Project Area by the TLMP." One of those objectives is to "...seek to provide a timber supply sufficient to meet the annual market demand for Tongass National Forest timber, and the market demand for the planning cycle, up to a ceiling of this Plan's allowable sale quantity...". The TLMP guides all natural-resource management activities and establishes management standards and guidelines for the Tongass National Forest. It describes resource management practices, levels of resource production and management, and the availability and suitability of lands for different kinds of resource management. The TLMP allocated certain areas of the Forest to LUDs for different uses. The TLMP management direction is accomplished through identification and implementation of proposed actions, such as the Sea Level Project. The overall intent of this Project, as stated on page 1-6 of the Draft EIS, is "...to help move the existing forest condition toward the desired future condition." The desired future condition for the Timber Production, Modified Landscape, Scenic Viewshed and Old-Growth Habitat LUDs in the Project Area are described in the TLMP.

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anything like this project, nor, as discussed below, does the Tongass Timber Reform Act (TTRA). In fact, the Sea Level DEIS explicitly presumes that the fate for lands and resources within the project area were determined by TLMP, as revised, to an extraordinary degree.

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B. The DEIS Violates NEPA By Misrepresenting The Brooks And Haynes Report.

In its discussion of market demand for Tongass timber, the Forest Service continues to misrepresent the findings of its own economists. The DEIS erroneously states that “[p]rojected annual sawlog demand for the next decade is 113 million board feet (mmbf) for the low scenario, 133 mmbf for the medium, and 156 mmbf for the high scenario. See DEIS 1-7. For all scenarios; however, the Brooks and Haynes report calculated total market demand: “[t]hese figures refer to total National forest harvest, including both saw-log and utility volume.” Brooks and Haynes at 3. Furthermore, Brooks and Haynes estimated annual market demand for Tongass timber over five-year intervals, not over decadal periods. For the period from 1998-2002, the economists estimated market demand for Tongass timber to be 96 mmbf under the low scenario, 113 mmbf under the medium scenario, and 130 mmbf under the high scenario. Id. at 6. The Purpose and Need for the Sea Level timber sale is partially based on this inaccurate and inflated calculation of market demand. The Forest Service has a duty to insure that information presented in the DEIS is accurate and of high quality. The continual misrepresentation of the Brooks and Haynes study, even after our multiple corrections in other EISs, violates NEPA. See 40 C.F.R. 1500.1(b).

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C. The DEIS Proposes Logging In Excess Of Market Demand, In Violation Of TTRA.

Section 101 of the Tongass Timber Reform Act states:

“Subject to appropriations, NFMA, other applicable law, and the requirements of the National Forest Management Act...the Secretary shall, to the extent consistent with providing for the multiple use and sustained yield of all renewable forest resources, seek to provide a supply of timber from the Tongass National Forest which (1) meets the annual market demand for timber from such forest, and (2) meets the market demand from such forest for each planning cycle.”

16 U.S.C. 539d(a). The DEIS proposes a series of sales from the Sea Level project area beginning in 1999, when approximately 235 mmbf are scheduled for sale on the Tongass. See DEIS, Appendix A at A-1. As stated above, expected annual market demand for this time period ranges from 96 mmbf to 130 mmbf, approximately half of the scheduled offerings. As part of the total Tongass timber sale program, the Sea Level Timber Sale contributes timber in excess of market demand.

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1. In the near-term, the Forest Service should consider Brooks and Haynes low scenario as the most likely estimate of market demand for Tongass timber.

In all drafts of their analysis, Brooks and Haynes chose not to describe any of these alternate scenarios as most likely; however, the authors did include the statement: "a scenario in which the derived demand for Tongass timber falls to 70 million board feet is quite plausible." Brooks and Haynes draft at 12 (May 26, 1997). While this statement is conspicuously absent from the final documents, several references throughout the final document support the same idea. Due to past market trends, expectation of continued high logging and manufacturing costs, and weaknesses in Japanese markets, the authors suggest that the low scenario is the most likely to occur.

The 'low' scenario is predicated on the assumption that markets for Alaska wood will improve: "[I]n the low scenario, Alaska was assumed to recover some of the markets lost to other producers; the recent trends in production and market share for Alaska are reversed but only to a limited extent." Brooks and Haynes at ii. Given past trends, however, assuming any gains in market share for Alaska wood is optimistic: "Alaska's lumber production and market shares nevertheless have decreased steadily for more than 20 years, suggesting that the disadvantages may outweigh any advantage resulting from the value of Alaska's raw material." *Id.* at 7. "[A]ny gain [in market share] will be a reversal of trends observed over the past 20 years." *Id.*

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In forming the 'low' scenario, Brooks and Haynes assumed that higher costs limit Alaska's share of markets. The authors give no indication that these higher costs will disappear in the future:

"Historically, harvesting and manufacturing costs in Alaska were 30 to 50 percent higher than those in the Pacific Northwest. In addition to increases in harvesting costs resulting from changes in management practices, competition for timber and the elimination of long-term timber sales have increased wood costs for Alaska mills."

Brooks and Haynes at 9. It seems likely that logging and manufacturing costs will continue to increase in Southeast Alaska, because higher cost disadvantages will not disappear. See O'Toole, Review of Tongass Forest Plan Assumptions about Timber Receipts and Costs, (Oak Grove, OR)(The Thoreau Institute, Nov. 14, 1997)(attached).

Finally, recent changes in Japanese markets make the 'low' scenario even more likely. The Japanese economy has lately been in a prolonged recession. Japanese housing starts have spiraled down from last year's levels "[h]ousing starts in May were down 17.0 percent from the same month in 1997 - the 17th consecutive monthly down - both for wood-based and no-wood-based starts", North American lumber imports were down 47.9 percent from the same month in 1997." Hoshi, Japan Market Report, "Pacific Rim Wood Market Report (July 1998)(attached). see also "Japan: Change Ahead," Pacific Rim Wood

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Market Report at 1 (Oct. 1997)(attached). Brooks and Haynes state the importance of Japanese markets for the Alaska timber industry : "[t]his sensitivity analysis shows model results to be most sensitive to relatively small changes in Alaska's share of North American shipment of softwood lumber to Japan." Brooks and Haynes iii. Furthermore, when discussing the state of Japanese markets, the authors admit that "[f]actors that may make our medium projection too optimistic include further weakening of the Japanese market for hemlock and even greater acceptance of engineered wood products." *Id.* 15. This latter point is directly opposite the finding in the Sea Level DEIS of a "recent willingness of the Japanese to purchase Alaskan milled lumber, manufactured wood products, laminates, etc." See DEIS at A-3. Yet the Forest Service offers no support for this assertion. As many of the documents submitted with these comments show, there is not basis for this claim.

Finally, recent changes in the Japanese market make the low scenario even more likely. "Looking beyond the downturn in the current period, the next quarter or even the next year, it appears likely that softwood logs from the Pacific Northwest will continue to be a diminishing export trade item" "Nature's Mighty Law is Change" Pacific Rim Wood Market Report, at 1, (July 1998)(attached) See Hoshi, "Japan Market Report," Pacific Rim Wood Market Report, at 4 (Nov. 1997)(attached) see also "Japan Change Ahead," Pacific Rim Wood Market Report at 1 (Oct. 1997)(attached). Brooks and Haynes emphasize the importance of Japanese markets for the Alaska timber industry: "[t]his sensitivity analysis shows model results to be most sensitive to relatively small changes in Alaska's share of North American shipment of softwood lumber to Japan. Therefore, one of the central issues facing the Alaska forest sector is competitiveness relative to producers in the Pacific Northwest and British Columbia" Brooks and Haynes at iii. Mill capacity and providing a three year supply are irrelevant when manufacturers can not compete on the global market.

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2. Alaska's inability to compete on the global market will continue to limit demand for Tongass timber.

The DEIS notes that the Tongass timber industry's dependence on export markets, that accumulating a large backlog of uncut timber will not assure maintenance of timber employment, and that further declines in timber industry employment are foreseeable, even if logging levels are maintained at recent levels. See DEIS at 3-266. The DEIS, however, stops there and fails to disclose or analyze relevant factors showing that Alaska will continue to lose its relatively insignificant market share⁴ because of high costs, reducing overall demand for Tongass timber. For example:

"North American logs are less competitive; competing resources are diversified and able to fill market demands; and the stalled economies of Asia, particularly Japan, are having a serious impact on log exports."

⁴ According to the 1997 Brooks and Haynes at 3, note 2, "Total timber harvest in Alaska in 1995 was 4 percent of the combined harvest in the greater Pacific Northwest (Oregon, Washington, and coastal British Columbia)...."

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Nature's Mighty Law is Change, Pacific Rim Wood Market Report at 1, (July 1998)(attached).

"A basic proposition is that there is no demand for Alaska timber. There is a demand for products at competitive cost levels. Alaska high grade logs have high value in limited market niches, but Alaska supplies are small and the end users have substitutes available in almost every case. Alaska continues to labor under severe competitive disadvantages resulting from high labor, capital, and material costs. Commentators repeatedly refer to the area as a marginal supplier."

The Irland Group, *Assessment of Adequacy of Timber Supply and Analysis of Potential Effects of Eliminating the Long-Term Timber Sale Contract Areas 272* (Dec. 18, 1991)(Report to USDA Forest Service, Alaska Region pursuant to Section 301(e) of the TTRA).

"Southeast Alaska's timber industry is commonly seen as a price-taker with no significant ability to impact prices for timber in national and international markets. Volumes produced by the region are comparatively small and, unlike the Pacific Northwest, a large reduction in Southeast Alaska harvests would not be expected to have significant impact on lumber prices in the consuming regions."

TLMP FEIS at 3-502. Brooks and Haynes have also recognized this lack of competitive potential for Alaska: "For the foreseeable future as in the past, producers in Alaska will face stiff competition from larger and generally more efficient producers in the Pacific Northwest and Canada." Brooks and Haynes 1997 at 15. The Forest Service's response of providing timber operators with excessive volume during depressed market conditions will only accelerate the downward trend in prices. See "Alaska and General Market Trends," Pacific Rim Wood Market Report (June 1998).

3. The agency's conclusion that providing a three-year backlog of timber to industry is necessary to meet the requirements of Section 101 of the TTRA is unreasonable, arbitrary and capricious..

The DEIS reveals that:

"The Forest Service intent is to provide the opportunity for the timber industry as a whole to acquire a supply of purchased but unharvested timber equal to about 3 years of timber consumption, considering the average rate of harvest for the past few years and any indicators of change in that rate from planning cycle projections or other sources. This supply is a means of providing for stability in relation to fluctuating market demand. It is estimated that a 3-year supply, based on medium demand projections is 399 mmbf."

DEIS at 1-7; see also Appendix A at A-2.

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We contend that this stated "intent" reveals the extent the Forest Service has failed to fulfill the remedial intent of Congress in enacting Section 101 of the TTRA. This provision eliminated the wasteful and destructive mandated logging level and guaranteed timber supply fund requirements of former Section 705(a) of ANILCA. The agency's claim that it is necessary to allow the timber industry to accumulate a 3-year backlog of timber in order to be responsive to market demand reflects little more than agency defiance of Congress' clear direction to halt the "timber first" approach to Tongass management. Instead of treating "market demand" as a relationship between price and supply, the Forest Service continues to focus unreasonably on supply, and thereby improperly allows timber production to continue to be the dominant consideration in Tongass management.

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For an agency's interpretation of a statutory provision to be upheld, it must be based on a reasonable construction of the statute. It is manifestly unreasonable, however, for the Forest Service to conclude that providing industry with a 3-year accumulation of timber is consistent with the Congressional directive in Section 101 of the TTRA to "seek to provide a supply of timber ... which (1) meets the annual market demand for timber ... and 2) meets the market demand ... for each planning cycle."⁵ By focusing on the amount of timber that industry desires to be made available to it rather than the actual "market demand" for Tongass timber products, the Forest Service has arbitrarily substituted industry's lust for a guaranteed supply of Tongass timber at taxpayer expense for a reasoned examination of the relevant factors, including anticipated cutting levels by industry in response to real market conditions.⁶

Our contention is supported by examining the agency's justification for its "intent" to provide a 3-year backlog of timber to industry in this DEIS with its "pre-TTRA" rationalization. According to the Forest Service:

"The Alaska National Interest lands Conservation Act's (ANILCA) Section 705(a) requires the Forest Service to make timber available to dependent industry in Southeast Alaska at a rate of 4.5 billion board feet per decade.

...

⁵ Section 105 of the TTRA, 16 U.S.C. 539d(f), also requires the Forest Service to "seek to provide a supply of timber" to "small business concerns." Congress further qualified this direction by making it "[s]ubject to appropriations, the provisions of this Act (including the market demand provisions in Section 101 of the TTRA) and other applicable laws ... to the extent consistent with providing for the multiple use and sustained yield of all renewable forest resources...." *Id.*

⁶ For the record, we note that the last Tongass Timber Supply and Demand Report prepared for the Tongass was for Fiscal Year 1995. Section 706(a) of ANILCA requires preparation of these reports on an annual basis. Consequently, agency decision makers simply lack complete and up-to-date information upon which to basis annual demand projections. See Letter from Wheeler, SEACC to Norbury, USDA Region 10 (Nov. 7, 1997)(SEACC's comments on "draft" FY 1996 Timber Supply and Demand Report)(attached).

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The objective for making timber available in the short-term sale program is to have completed the NEPA analysis and disclosure on a 3-year supply of timber. This is to be accomplished by:

3. Preparing another two year supply through completion of the NEPA process This volume forms the 'pipeline' of timber so that the short-term sales program can maintain a flow of actual sales to the short-term purchasers.

See 1987 Section 706(b) Status of the Tongass National Forest Report at 7-8 (March 1988)(attached). In a footnote to a table disclosing "Tongass National Forest timber program attainments [for fiscal years 1980-87]," the Forest Service further explains that:

"[h]arvest by volume class or total volume is not used as a monitoring or control standard [of Forest Plan goals] since the rate of harvest is controlled by the operator and is tied to contract periods and not Forest Plan periods."

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Id., at 8, note b to Table 1.1. A review of the record of committee deliberations regarding Tongass reform clearly show that Congress knew about the Forest Service's timber sale policy and rejected it. See H.R. REP. NO. 100-600 (Part 1), 100th Cong., 2d Sess. 9-12, 19 (1988)(accompanying H.R. 1516); H.R. REP. NO. 101-84 (Part 1), 101st Cong., 1st Sess. 10-14, 22 (1989)(accompanying H.R. 987).

It was the agency's historical capitulation to industry's demands regarding when and how much timber should be logged that caused the huge backlog of sold but uncut timber which Congress intended Section 101 to remedy. This is analogous to the backlog of sold but uncut volume existing on the Tongass today. For example, out of the 26 independent sales currently under contract in the Ketchikan area, no logging has occurred on 16 of those sales as of May 31, 1998. See Automated Timber Sales Accounting System Remaining Timber Sales Volumes (MBF) and Values By Purchaser As of May 31, 1998 (June 19, 1998). Implementing Section 101 of the TTRA by using the same agency policies that Congress rejected and sought to remedy by deleting former Section 705(a) is impermissible.

Thus, the Forest Service's conclusion months after enactment of the TTRA that "it [was] desirable to have 2 ½ to 3 years of timber available for harvest at the beginning of each fiscal year...to remove uncertainty from the National Forest timber supply in Southeast Alaska" is not consistent with the remedial intent of Congress. See letter from Deputy Chief Leonard to Sen. Stevens (April 23, 1991)(attached). In fact, the Forest Service used Senator Stevens request⁷ to deliberately contravene explicit congressional intent. Moreover, the agency's "intent" is contradicted by statements from the timber industry itself. Seven months prior to the above correspondence, statements from timber industry representatives show that the industry did not need a 3-year backlog of timber. In

⁷ See letter from Sen. Stevens to Deputy Chief Leonard (April 16, 1991) (attached).

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a letter to the Ketchikan Area Supervisor, Ketchikan Pulp Company's Timber Division Manager stated that KPC "realistically need[ed] to maintain a minimum of 12 months of timber released ahead for road construction and six months of timber roaded ahead for logging." See Letter from Graham to Forest Supervisor Lunn (Sept. 21, 1990)(attached).

By striving to provide, and maintain, a 3-year backlog of timber to industry, the Forest Service is supplying timber far in excess of market demand and violating Section 101 of the TTRA. The Ninth Circuit has explained that "[Section 101 of the] envisions not an inflexible harvest level, but a balancing of the market, law, and other uses, including preservation." AWRTA, 67 F.3d 723, 731 (9th Cir. 1995). A timber program designed to supply a 3-year backlog of timber at levels approximating existing mill capacity, however, is precisely the "inflexible harvest level" Congress sought to eliminate from the Tongass.

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Even assuming that satisfying the 3-year supply objective was permissible, the FEIS does not disclose sufficient information to support the rationale that the 42 mmbf proposed in the preferred alternative for the Sea Level project is needed this year or next. The most recent information available shows that as of May 31, 1998, the timber industry already has over 400 mmbf of timber under contract and uncut. See U.S. Forest Service, Automated Timber Sales Accounting System, Remaining Timber Sales Volumes (MBF) and Values By Purchaser As of May 31, 1998 (June 19, 1998). Therefore, the Forest Service has already supplied the industry with more than four times the average rate cut from the Tongass over the last two years.⁸

4. The Forest Service wrongly uses speculative mill capacity as an indicator of current market demand.

In Appendix A to the DEIS, the Forest Service claims that one of the reasons it can ignore the demand projections supplied by its own experts is because their scenarios "did not consider the Seley mill that is under construction on Gravina Island, the proposed KPC veneer plan, or the possible sale and reopening of the APC sawmill in Wrangell." See DEIS, Appendix A at A-2. This rationale is arbitrary and the information provided the public speculative and inaccurate.

For example, the DEIS claims that the new Seley Log and Lumber Company mill on Gravina Island, which opened in February 1998, is "expected to process 30 MMBF annually." See id. Although the agency cites a company source for this figure, it exceeds by more than half the 14.4 MMBF actually targeted once everything is up and running. (Steve Seley Jr., Seley Inc., July 16, 1998). For the record, SEACC publicly supported this mill proposal because "[t]he concepts that serve as the foundation for this proposal

⁸ In FY 1996, 100 mmbf of timber was cut on the Tongass. See "Annual Monitoring and Evaluation Report for FY 1996" (January 1997) as amended by the Errata sheet (April 1, 1997). In FY 1997, around 106 mmbf was cut. See Whitney, David, "Stevens Puts Alaska items in Bills," Anchorage Daily News (June 24, 1998)(attached). As of the end of the 3rd Quarter of FY98, 72.8 mmbf has been cut on the Tongass. See U.S. Forest Service, FY98 Third-Quarter Report (July 13, 1998)(attached).

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are sound ones, and represent ideas that we believe the new timber industry for Southeast Alaska should follow in the future.”⁹

The Forest Service also relies on the proposed joint-venture between KPC and Sealaska to build and operate veneer mill. Although a “project manager” has been hired, the parties have not formally agreed to proceed with this proposal. The projected capacity of 150 mmbf/annually (Appendix A at A-3) is entirely conjecture at this point; consumption rates for the proposed veneer plant have ranged considerably, from 25 mmbf to the 150 mmbf noted in the FEIS. See Jones, Nikki Murray, “Veneer plant expected to open by 1999,” Ketchikan Daily News, (March 19, 1998)(attached). See also Letter from Bart Koehler, SEACC, to Governor Tony Knowles, (March 18, 1998)(attached)

Whether this proposal becomes a reality, the capacity of the mill, and how much volume will actually come from private lands vs. public lands is completely speculative at this stage. Moreover, it is not the Forest Service’s responsibility to “create” market demand, but only to “seek to provide a supply of timber ... which meets the annual market demand ... and ... for each planning cycle.” See Section 101 of the TTRA, 16 U.S.C. 539(d). The use of demand estimates based on hypothetical conjecture is completely arbitrary.

It is also interesting that although the FEIS notes the purchase of the Wrangell Sawmill by Silver Bay Logging, it fails to disclose what “capacity” the mill is being operated at. Stating that the Wrangell sawmill, with an installed mill capacity of 110 mmbf, has “reopened” without disclosing that it is only processing an averaged “40,000 board feet a day”, or 14 to 15 MMBF annually, is simply disingenuous. See MacPherson, James, “Wrangell Mill Reopens,” Southeast Empire (May 1998)(attached). The era of guaranteed timber supply contracts on the Tongass is over, and it is unreasonable to assume that mills designed to operate during that era will be able to operate competitively on the Tongass today. With current selling prices at record lows, it is virtually impossible for even the most efficient operator to produce Alaskan wood products at a profit.

Finally, we must strenuously object to the Forest Service’s attempt to use mill “capacity” to try and justify demand for Tongass timber. Mill “capacity” is not essential in determining supply or demand because this factor ignores the financial viability of buying, processing, and selling the products manufactured by the mill. No matter how much a mill can process, the ability to make a profit is essentially determined by selling prices. This conclusion is supported by the agency’s own answers to questions posed by Congressman Young in 1986:

⁹ See Letter from Koehler, SEACC Executive Director to Topp, U.S. Army Corps of Engineers (May 23, 1997) (attached); Memo from Lindekugel, SEACC to Sisk, Liaison to Environmental Groups on The Southeast Regional Timber Task Force (May 28, 1996)(summary of SEACC’s TLMP Transition Alternative, as modified to reflect KPC’s announcement that it would close its pulp mill in March 1997)(attached).

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Forest Service Response to SEACC 9:

The Brooks and Haynes study is used appropriately in the Draft EIS. Appendix A also indicates that the study did not account for changes in the industry, such as the opening of the new mill on Gravina Island, upgrading the mill in Klawock, and reopening the Wrangell mill. To differing degrees, these changes in the industry represent secondary and tertiary manufacturing. The overall relationships of this value-added industry are not totally known, but it is reasonable to expect increased values for timber. The combination of the study's estimated demand and ongoing changes in the industry indicate a demand for timber in Southeast Alaska. Timber demand tends to be dynamic, with prices fluctuating up and down in response to local, regional, National and international market conditions. The bid prices for sales from this Project will be the best indicator of market demand. If there is no demand, then they will not be purchased. If not purchased, they will not be harvested.

Forest Service Response to SEACC 10:

See also Forest Service Response to SEACC 9. The Forest Service does not agree that this Project is in violation of the TTRA.

"Within a planning period the amount of timber that is actually economic will vary from year to year with shifts in the market of timber products. There have been times during the current planning period [the mid-1980s] when logs could be delivered to the mills by the Forest Service and the timber operator would still have lost money on the timber."¹⁰

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The failure to include any discussion of mill efficiency, competitive ability, or the fact that selling prices are currently depressed makes reliance on this factor unreasonable. More importantly, the previous year's harvest levels, overseas market conditions, and competitive advantage should be analyzed. "Because most of Alaska's forest products are exported, fluctuations in wood product markets are primarily a function of international markets and do not necessarily reflect domestic markets alone." DEIS at 3-266.

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If profitability is a function of subsidies, the DEIS must fully analyze the financial viability of the sale. There is no Public Net Value analysis in the Sea Level DEIS. The DEIS does disclose, however, that "[a]lternatives 2,3,4, and 5 show a negative PNV based on the mid-market analysis, while Alternative 6 shows a positive PNV. Other natural resource investment opportunities may offer better investment choices and at the same time contribute to mitigating potential community stability goals." See DEIS at 3-276. This clearly indicates that the desired future condition for this project area is not beneficial over the longer term for the community of Ketchikan. Instead of fulfilling the desired future condition identified in TLMP for this area like robots, the Forest Service needs to take a hard look at the lands capabilities and adjust TLMP accordingly.

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IV. THE DEIS FAILS TO PROVIDE A FULL AND FAIR COST/BENEFIT ANALYSIS OF ALL THE ALTERNATIVES, IN VIOLATION OF NEPA.

A. The DEIS's Economic Analysis is Erroneous.

The Economic and Social Environment Section of the DEIS is riddled with calculation errors, inconsistencies, assumptions, and unfounded assertions.

1. The Forest Service's Economic Analysis is based on outdated information, in violation of NEPA.

Under the Section, Sales Below Cost the Ketchikan Area attempts the same old statistical slight of hand in order to minimize the huge losses the Tongass timber program continues to accrue year after year. To evaluate Forest-Service pre-harvest costs, the SDEIS relies on the FY1994 TSPIRS report for the Ketchikan Area. However, a more recent data from the Forest Service show that the U.S. Treasury received \$11.4 million in cash for Tongass timber in FY 1996. At the same time, the total costs of the Tongass timber

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¹⁰ See *Management of the Tongass National Forest: Oversight Hearings before the Subcomm. on Public Lands of the House Comm. on Interior and Insular Affairs*, 99th Cong., 2nd Sess. 476 (May 8 and 9, 1986)(response to Mr. Young's question #4, enclosed in a Letter from Chief Peterson, to Chairman Seiberling, dated June 18, 1986).

Forest Service Response to SEACC 11:

Discussions of mill efficiency and competitive ability are beyond that which is required for the deciding officer to make a reasoned decision. See Forest Service Response to SEACC 9, SEACC 10, and TCS 1.

Forest Service Response to SEACC 12:

The financial viability of the timber sale proposed in the Sea Level EIS is estimated by comparing production costs of timber proposed for harvest, against potential selling value. It is a means of comparing the potential for selling timber in one alternative as compared with another. Changing market conditions will influence whether or not, or how well, these timber sales meet market demand. A discussion of economic efficiency, nonmarket values and nonpriced values are included in Chapter 3 of the EIS. Implementation of this proposed action does not preclude other natural-resource investment opportunities in the Project Area. See the Forest Service Response to SEACC 8.

Forest Service Response to SEACC 13:

It is Forest Service policy to offer timber purchasers economically viable timber sales. It should be pointed out that the Forest Service decision-making process is not solely based on economic values, but also on the broader picture of a balanced resource base. The results of the mid-market assessment for the Final EIS show that all alternatives have a positive net stumpage, which indicates that timber sales from these alternatives could be sold and harvested profitably. If alternatives showed a negative mid-market value, it would indicate they would yield only base rates. Base rates are the minimum amount that the Forest Service will accept for stumpage, regardless of how deficit the sale appraises. Individual timber offerings will be cruised and appraised using site-specific timber conditions and up-to-date costs and values. It should be noted that the purpose and need for the Sea Level Project is not to maximize returns to the U.S. Treasury, but to move the Project Area closer to the desired future condition of the TLMP and to contribute to the local and regional economies of Southeast Alaska.

program were \$32.3 million -- a Net Return to the U.S. taxpayer of a negative \$20.9 million in FY 1996.¹¹ It is irresponsible and contrary to NEPA requirements to not conduct updated analyses for this planning effort.

SEACC
#13

The DEIS also fails to use, the best most up to date information in its analysis of the timber industry. Depending on the 1997 revised TLMP for information and analysis of the timber industry gives the public an incomplete picture of the present industry. TLMP does provide a compelling history of Tongass overcutting but little more, since the latest figures are from 1995 - over three years ago. Such outdated information fails to take into account some of the vast structural and market changes since 1990 in Southeast Alaska's timber industry, most notably the end of the pulp-mill era and downward spiral of the Asian economy. The logical source of top flight, up-to-date information would be revised 706(a) reports. Unfortunately for the public, the Forest Service has failed to release these reports in a timely fashion. We are now over eight months into FY 1998, and the Forest Service still has not released a final 706(a) report for FY 1996 or a draft report for FY 1997). The Forest Service has only managed to release five reports since 1990. See SEACC's Comments on the Draft FY 1996 706(a) Report (Nov. 7, 1997)(attached).

SEACC
#14

Another example of outdated information used in the DEIS is of the 1992 IMPLAN model to determine job and income data under each alternative and See DEIS at 3-271. The IMPLAN model is six years old and it fails to reflect current employment levels of wood production. The Forest Service should update its models to consider job levels produced under high value-added wood products manufacturing. See "Modeling a Small-Scale Secondary Manufacturing Timber Industry for Southeast Alaska" (August 1997)(attached).

SEACC
#15

2. The DEIS's Economic Analysis Fails to Adequately Consider Alternative 1, the "No Action" Alternative

A fundamental assumption contained in the DEIS's economic analysis of the timber industry is the statement "The effects of Alternative 1 (no action) are not predictable and could range from elimination of shifts to a partial or even a full short-term shutdown of a mill in addition to the potential loss of revenue." Id 3-271. The bias against the No Action alternative is clearly illustrated in the above statement. First, the Forest Service says the effects of Alternative 1 are "...not predictable." Then, in the same sentence the Forest Service makes a bold prediction that the Alternative 1 could lead to loss of mill shifts, maybe even shutdowns.

SEACC
#16

The DEIS fails to provide any analytical data to back up these claims. In fact, information provided by the DEIS contradict this statement. For example, implementation of the any of the action alternatives will negatively impact tourism and recreation: "Marketing studies

¹¹ These numbers are based on data from Forest Service budget and receipts reports that are based on the cash accounting stance.

Forest Service Response to SEACC 14:

Appendix A uses up-to-date information regarding the need for this Project. It does take into account "the end of the pulp mill era," and the depressed Asian economy.

Whether or not the Forest Service is on schedule regarding publication of the 706(a) reports has no bearing on the decision to be made for the Sea Level Project.

Forest Service Response to SEACC 15:

The information available at the time of the analysis for the Final EIS is used, including the 1995 IMPLAN used for the 1997 TLMP revision. Updating the IMPLAN model may be desirable but not critical to the decision maker for this Project.

Forest Service Response to SEACC 16:

The economic effects of the No-Action Alternative are analyzed in the Socioeconomic Environment section of Chapter 3 in the Final EIS. The No-Action Alternative generates no additional economic outputs from the Project Area, over and above the existing condition. The effects of implementing the No-Action Alternative on employment cannot be precisely determined, as "shelf volume" could be used to fill immediate demand for timber. At some point, however, the lack of timber to harvest from this and other potential project areas would be felt when shelf volume declines and employment decisions are made based on future projections of timber supply. The effects of the alternatives on recreation and recreation opportunities are disclosed in the Recreation section of Chapter 3 (Final EIS). This discussion discloses changes in recreation setting that may displace some current users to other nondeveloped areas and attract new users.

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by the Alaska Division of Tourism indicate that scenery, forest, mountains, out-of-doors, and wilderness (unspoiled, rugged) were the top interests which appealed to potential nonresident visitors." Id. 3-266 All action alternatives other than the no-action alternative, would affect the "rugged," unspoiled character of the project area.

SEACC
#16

The DEIS 3-272 also states:

"Projected future recreational use demand in Southeast Alaska during the 1990s is expected to increase by 27 percent for recreation and tourism, 36 percent for sport fishing, and 53 percent for hunting."

But the DEIS fails to disclose how many recreation and tourism jobs depend on the Project Area or to evaluate potential economic impacts on these businesses from the project alternatives. The Ketchikan Area also has great potential for increased recreation and tourism activities. The DEIS fails to disclose and evaluate the effects of all action alternatives on future recreation and tourism opportunities.

SEACC
#17

The DEIS further fails to evaluate the cultural and economic importance of subsistence resources to local communities. It fails to disclose the socioeconomic impacts associated with all of the action alternatives in terms of subsistence resources. It therefore fails to fully evaluate the benefits to local communities associated with maintaining the highest availability of subsistence resources as in the No Action Alternative.

SEACC
#18

V. THE AGENCY'S CUMULATIVE WATERSHED EFFECTS ANALYSIS IS DEFICIENT.

One of the most important recommendations of the AFHA report was that the Forest Service should perform a cumulative watershed effects analysis before project level planning begins. See SEACC's Appeal of the revised Tongass Plan at 118. While the SDEIS claims that some watershed analyses were performed on the Project Area, the Forest Service failed to adequately perform a watershed analysis to the standards outlined by the revised TLMP. While the new TLMP requires watershed analysis only if a project decision proposes specific adjustments of the standards and guidelines for a process group (Forest Plan, Appendix J), this management direction, however, does not guarantee compliance with NEPA's requirement for a site-specific analysis to be sufficiently detailed to permit assessment of cumulative environmental effects of the proposed action. See 40 CFR § 1502.16. Therefore the Forest Service must perform an adequate watershed analysis before proceeding with this project.

SEACC
#19

The revised Forest Plan states that "[w]atershed analysis shall use the basic framework relating to aquatic resources and riparian resources as described in "Ecosystem Analysis at the Watershed Scale : Federal Guide for Watershed Analysis" (August 1995)." According to this report:

Forest Service Response to SEACC 17:

The effects of the proposed Project upon recreation, commercial fishing, and tourism are discussed in the Socioeconomic Environment section of Chapter 3 (Final EIS). There will be no measurable effect on the recreation and tourism industry under any of the alternatives. Potential changes to recreation opportunities in the Project Area are discussed as changes in the Recreation Opportunity Spectrum.

Forest Service Response to SEACC 18:

Current subsistence resource use, the direct effects of the proposed Project upon subsistence resources, as well as cumulative effects on subsistence resources, for the communities of Saxman and Metlakatla, are discussed and analyzed in the Subsistence section of Chapter 3 (Final EIS). There is not a significant possibility of a significant restriction to subsistence use of deer, bear, wolves, or marten in the Project Area. A proposed Ketchikan-Shelter Cove Road connection resulting in increased access to the Shelter Cove area could pose a significant possibility of a significant restriction based on increased use of the Shelter Cove portion of the Project Area. That possibility would have to be more closely analyzed in a project analysis when that road connection is considered.

Forest Service Response to SEACC 19:

The TLMP incorporates all the recommendations made in the Anadromous Fish Habitat Assessment (AFHA) report for additional protection, because the AFHA is the most comprehensive and credible scientific review of the measures needed to protect fish habitat on the Tongass. The standards and guidelines of the TLMP meet or exceed all of those recommendations by AFHA (TLMP ROD, 1997, page 18). The Sea Level Project is fully consistent with the TLMP.

The TLMP Riparian Standard and Guidelines will be applied in all watersheds on the Project Area, and are sufficient to maintain and protect fish habitat and provide for sport and commercial fisheries and subsistence. No adjustments to RMA buffers are proposed except in Unit 133 of Sea Level Creek, watershed number E79A03. A site-specific watershed analysis, for Sea Level Creek E79A, which meets the requirements set forth by Appendix J of the TLMP, can be found in the Sea Level EIS planning record. The sediment risk assessment models, discussed in Chapter 3 and the watershed analysis, provided a means to analyze the individual components of all watersheds; to identify, areas that exceeded 20 percent of, harvest and roads, location of the mass-movement soils and steep slopes, and channel characteristics. When we applied the assumptions and judgements developed in the TLMP Final EIS Cumulative Effects Analysis, several watersheds or subwatersheds were removed from all action alternatives (such as Licking Creek D91A), and set aside as an old-growth reserve. The Project avoids building extensive amounts of new road or harvest in areas of higher elevations with less stable terrain, to decrease chances of hillslope failure, erosion of fine sediment from road surfaces, and capture and rerouting of natural drainage.

The primary issue concerning water quality and beneficial uses in the Project Area are Fish and Fish habitat. Field intensive watershed analyses were conducted on Sea Level Creek and Painted Creek in accordance with guidance provided in Appendix J of the TLMP. These are the only two watersheds with more than three true sub-watersheds that contained over 1 mile of anadromous fish habitat. Appendix J of the TLMP says the scale and intensity of analyses will be determined by the significance of the issues, values, and risks associated with management activities.

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"[t]he process for conducting ecosystem analysis at the watershed scale has six steps: characterization of the watershed, identification of issues and key questions, description of current conditions, description of reference conditions, synthesis and interpretation of information, and recommendations."

Ecosystem Analysis at 3. Appendix D of the DEIS summarizes the Forest Service's attempts to perform watershed analyses in the project area. But the DEIS fails to show that the Forest Service synthesized and interpreted the information collected during analysis or that the agency came up with any recommendations. The Forest Service therefore failed to perform the fundamental purposes of watershed analysis -- to "[s]trengthen the project NEPA analysis [and] [f]ocus interdisciplinary discussion on key watershed-level resources, habitat relationships and management issues." Forest Plan at J-1.

SEACC
#19

In the revised Forest Plan, the Forest Service states that "[a] more intensive, complex, and field-based watershed analysis will be needed in watersheds with, but not limited to:....5. More than 20 % of the watershed acres with trees of second-growth younger than 30 years old." Forest Plan J-2. According to the DEIS, "[t]wenty six [of the 59] watersheds have over 20 percent of the acres harvested or roaded within the last 30 years." DEIS at 3-26. The cursory analysis evidenced in Appendix D can hardly qualify as "intensive, complex or field-based." Nor can the watershed analysis conducted for this project be used to justify not providing buffers on Class III streams. We also note that the DEIS fails to show that the Forest Service considered necessary steps to provide "reasonable assurance" that the slopebreak buffers on Class III streams were windfirm. The failure to consider windfirmness means that only half the prescribed standards for Class III streams was considered. Consequently, the Forest Service did not follow plan direction, RIP2,II.,E.,d.

SEACC
#20

VI. THE DEIS FAILS TO ADEQUATELY DISCLOSE AND EVALUATE THE EFFECTS OF LOGGING ON EVAPOTRANSPIRATION.

As outlined by the revised Forest Plan, one of the core topics for watershed analysis is watershed hydrology. Forest Plan J-1. In its discussion of watershed analysis, the SDEIS fails to fully account for effects of clearcutting on evapotranspiration. In discussing watershed disturbance / second-growth, a recent draft handbook for conducting watershed analysis explains that "[r]emoving timber can result in elevated peak flows, depressed low flows, increase in groundwater tables, and other hydrologic effects. USDA, Alaska Region *Watershed Analysis Handbook* at 25. Decreased low flows result from higher evapotranspiration rate caused by the conversion of old-growth timber stands to vigorously growing second-growth vegetation. Such effects are only visible after second-growth is well-established. The decreased low flows resulting from clearcutting, as well as increases in water yields, can adversely affect fish habitat by changing water temperatures, oxygen levels, and eroding headwaters and channel banks. The failure to fully consider watershed hydrology in a cumulative watershed effects analysis prevents the Forest Service from making a reasoned finding that approved management practices will

SEACC
#21

Forest Service Response to SEACC 20:

We have applied TLMP riparian buffers on all streams in the Project and made one relatively minor adjustment to process group standards and guidelines, on one short stretch of an alluvial-fan stream in Unit 133. Windfirmness of buffers is incorporated in unit layout based on site-specific conditions including slope, aspect, tree cover, history of blowdown in the area, and other factors. See Forest Service Response to ADFG 6, ADEC 2, ADEC 6, ADEC 10, ADEC 12, and SEACC 19.

Forest Service Response to SEACC 21:

Large changes in evapotranspiration can affect stream base-flow. Bartos (1989) found a significant increase in summer flows in Stancy Creek following timber harvest on approximately 35 percent of the watershed. The increased summer low flow was attributed to decreased evapotranspiration. Similarly, Hicks et al. (1991) found an increase in August water yield that lasted for a period of 8 years in a completely clearcut watershed in western Oregon. This increase was then followed by a decrease in predicted water yield that has continued for a period of 18 years. In an adjacent watershed that was 25 percent patchcut, Hicks et al. (1991) found an increase in August water yields that lasted for 16 years, followed by a return to predicted August water yields that lasted for 10 years. The difference in response was attributed to differences in riparian vegetation caused by differing valley geomorphologies between the two watersheds. A relatively wide valley floor in the completely clearcut watershed allowed development of hardwoods in the riparian zone, but the narrow valley floor in the patch-cut watershed allowed for only limited development of hardwood stands. This study points out the importance of assessing not only the amount of a watershed that has been harvested, but the changes in vegetation following harvest that will affect the long term response of streamflow.

Stream buffer requirements now used on the Tongass National Forest will eliminate stream-bank harvest on Class I, II and III streams. Only the smallest streams (generally less than 5-foot active channel width) will not have streamside trees retained (TLMP, 1997, pages 4-53 to 4-71). See the Forest Service Response to EPA 12.

Logging in Southeast Alaska may have less effect on runoff than in other forested regions because of the typical long duration storms, which often persist well beyond the point where the canopy is saturated. Once saturated, it is likely precipitation which falls on the canopy drips to the forest floor at near the same rate as it would inside a clearcut. Harvest prescriptions such as group selection and single-tree selection which will cut from 10 to 60 percent of the timber volume have been prescribed in several recent timber-harvest EISs. These prescriptions could create less change in water yield than conventional clearcuts.

For the Sea Level Project, riparian vegetation along all Class I and Class II streams will be protected by a no-harvest buffer of 100 feet in width or to the extent of the TLMP riparian buffer, whichever is greater. In wider, alluvial, valley bottoms, typical of lower Painted Creek, this buffer has been extended to distances greater than 100 feet in order to protect side channels and wet soils. Class III streams will receive riparian buffers in accordance with TLMP. Further, as described under "Cumulative Watershed Effects" in the Water Resources section of the Final EIS, the amount of each watershed proposed for harvest is much less than has occurred in Stancy Creek or in the watersheds studied by Hicks et al. (1991). The discussion of possible long-term effects on streamflow in the Draft EIS was brief because the proposed alternatives involve harvest of less than 10 percent of most watersheds.

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not "seriously and adversely affect water conditions or fish habitat." 36 C.F.R. § 219.27(e). It also means that the Forest Service lack any reasonable basis for concluding that the action alternatives will have no effect on stream flows. See DEIS at 3-21.

SEACC
#21

VII. THE DEIS FAILS TO CONSIDER THE RECOMMENDATIONS OF THE ALASKA DEPARTMENT OF FISH AND GAME.

In its draft report, "Recreational and Commercial Fishery Value," the Alaska Department of Fish and Game outlines its "reserve and restore" strategy, proposed as "the central theme for management in the Tongass - that certain lands are best suited for producing fish and should be kept free of human-caused disturbances." Recreational and Commercial Fishery Value 7.¹² Noting that salmon production and sport fishing use were heavily concentrated in 26% of the VCUs of the Tongass, ADF&G recommended that these VCUs - the Primary Fish Producers - be managed primarily for fish production, at the exclusion of future timber harvest. ADF&G further stated, "[I]n the long term, we believe this strategy will assure the sustainability of the region's commercial, sport, and subsistence fisheries." Id. This position is further supported by a recent study completed by M.D. Bryant and F.H. Everest: "Management and condition of watersheds in Southeast Alaska. The persistence of anadromous salmon."¹³ In their conclusion, the authors state, "The presence, number, and distribution of intact watersheds across the landscape of the Tongass are critical elements for sustainable salmon populations in the face of habitat loss elsewhere in southeast Alaska and the Pacific Northwest."

SEACC
#22

The Shoal Cove watershed, which is referred to as the Painted Creek watershed in the DEIS, qualifies as an ADF&G Primary Fish Producers. See DEIS at 3-27 (Table Aquatic-6). **The Forest Service should therefore follow ADF&G's recommendations and stay completely out of the Shoal Cove watershed in order to preserve the long-term health of southeast Alaska's salmon stocks.** This VCU was also recognized as a High Value Community Use Area by the State of Alaska in its comments on the 1996 RSDEIS.

The DEIS also fails to consider the economic benefits to local communities from initiating an aggressive restoration program on watersheds, such as the Shoal Cove watershed. Such a program could include maintenance of the existing road system, culvert and bridge replacement, and watershed restoration projects. According to a March 25, 1997 letter to Governor Knowles, Secretary Glickman stated his support for the Governor's efforts to establish a Southeast Alaska Community Economic Revitalization Team (SEA CERT). The Secretary stated that it was "my understanding that the interagency memorandum of understanding implementing SEA CERT is anticipated to be signed by the appropriate officials in Alaska sometime next month." Has this occurred? If so, what are the socio-economic benefits from this program for the island's communities?

SEACC
#23

¹² A copy of this "draft" report is attached. Although we understand that the ADF&G Commissioner's office approved this report, the authors still intend to make minor formatting edits (i.e., page numbers) before it is released formally.

Forest Service Response to SEACC 22:

The State of Alaska has recommended a different methodology be used to identify watersheds with just the highest fisheries values. Their approach overlooks additional factors such as sensitive or unique fish populations, subsistence uses, or others, which are also important when determining fish values. Conversely, the TLMP develops riparian management direction that applies to all watersheds, both low-value and high-value, across the Forest. The TLMP incorporates all the recommendations made in the Anadromous Fish Habitat Assessment (AFHA) report for additional protection, because AFHA is the most comprehensive and credible scientific review of the measures needed to protect fish habitat on the Tongass. The standards and guidelines of the TLMP meet or exceed all of those recommendations (TLMP, 1997, page 18).

Timber harvest has a potential to decrease fisheries production through such negative effects as sedimentation (loss of spawning gravels), oxygen depletion, temperature change, and loss of large woody debris. The Forest Service has developed an aggressive policy to minimize these negative effects through such beneficial practices as:

- limiting the size of units and their location,
- designing roads away from streams,
- observing legislated, minimum 100-foot-width stream buffers,
- timing road-construction activities in salmonid streams to correspond to the least damaging periods,
- use of Riparian Management Areas (RMAs),
- avoiding harvest activities on very high mass-movement soils,
- implementing BMPs, and
- monitoring.

The habitat-capability models in the Draft EIS were used to assist in the evaluation of effects of current and proposed land management activities on fish habitats and populations. The model estimates for pink salmon capability are based on estimates of available spawning habitat. Unlike the coho and Dolly Varden char habitat-capability estimates, the pink salmon model estimates are not influenced by prescribed logging activities. Therefore, the effects of past and proposed management activities on pink salmon are not quantitatively evaluated with the current habitat-capability model. A discussion on the limitations of the habitat-capability models is included in the Final EIS.

Forest Service Response to SEACC 23:

The Forest Service does not expect any significant economic benefits will accrue to local communities from initiating planned watershed restoration in the Project Area. Any employment or other benefits required to implement needed restoration activities are relatively minor and will be of small scale and of limited duration. Appendix E - Recommended Sale Area Improvement Projects of the Final EIS describes proposed watershed restoration/erosion control measures and estimates of costs. The interagency MOU implementing the SEACERT has not yet been signed according to information available at the time this document went to publication. The SEACERT funding may be available to high-priority projects identified by the participating communities.

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VIII. THE SDEIS FAILS TO FULLY DISCLOSE AND EVALUATE IMPACTS ASSOCIATED WITH LOG TRANSFER FACILITIES.

The DEIS states that up to three LTFs would be used to transfer logs for the Sea Level project. It fails to adequately describe why alternative log transfer methods cannot be used at these sites. In order to consider a reasonable range of alternatives, the Forest Service should expand its analysis to include onshore storage with barging of logs, and helicopter transfer of logs to barge, in addition to traditional in-water log transfer.

SEACC
#24

The DEIS states: "Because of high operating costs and the impacts of rebuilding existing LTF's to accept barges, land-to barge-options were not considered in the analysis of existing LTF's." See DEIS at 3-198. No analytical data is provided to back up this statement. More information is needed for the public to make a fully informed decision.

SEACC
#25

Although the DEIS claims that using road connections to reduce the number of LTFs used would have greater environmental effects, no evidence is disclosed or analyzed supporting this contention. See DEIS at 3-329. More information and analysis is needed.

SEACC
#26

All potential impacts on the human environment from these various alternatives must be disclosed, including impacts due to bark debris and from filling tidelands. The Forest Service analysis must show that it is not feasible and prudent to adopt any of the several zero-discharge alternatives available to it before allowing in-water transfer of logs. The Forest Service must also disclose credible and complete monitoring data showing that operation of LTFs will comply with State of Alaska water quality standards, including the State's antidegradation policy. See 18 AAC 70.011(9).

SEACC
#27

IX. THE FOREST SERVICE'S PREFERRED ALTERNATIVE FAILS TO PROTECT SUBSISTENCE, VIOLATING ANILCA.

The DEIS's analysis of impacts to subsistence resources and uses suffers from a primary fault – it assumes that there will be no increase in past harvest levels of subsistence resources in the project area. While other traditional use areas may be closer to closest subsistence communities, the DEIS never considers the cumulative impact of past, present and reasonably foreseeable logging development on those more heavily used areas. It also ignores the importance of this area to Ketchikan hunters if continued logging development on Prince of Wales Island results in the displacement of Ketchikan hunters from POW. Given the level of impact to more easily accessible hunting locations, it is unreasonable to assume that the loss of productive deer habitat as proposed in this DEIS will not have a cumulatively significant effect on subsistence uses within this project area.

SEACC
#28

X. THE FOREST SERVICE ANALYSIS OF IMPACTS TO THE HIGHEST VOLUME TIMBER STANDS VIOLATES NEPA.

Forest Service Response to SEACC 24:

The LTFs to be used for this Project, Shelter Cove, Shoal Cove and Elf Point, are existing permitted sites. They meet all current standards required for permitting from the U.S. Army Corp. of Engineers and the National Pollution Discharge Elimination System (NPDES) /EPA. Modification of the sites that are not currently barge sites would require additional costs and impacts to the environment. Barge sites require a minimum of 25 feet of water at low tide for barge operations (See Draft EIS pg. 3-198). The nonbarge facilities for this Project would require extensive embankment fills in order to obtain the depths for barge operations thus affecting additional marine environment.

Forest Service Response to SEACC 25:

See the Forest Service Response to SEACC 24.

Forest Service Response to SEACC 26:

The LTFs to be used for this Project are existing permitted sites. They meet all current standards required for permitting from the U.S. Army Corps of Engineers and the NPDES/EPA. Due to this, and in consultation with the U.S. Army Corps of Engineers, the analysis of eliminating LTFs by using road connections was not included in the Final EIS. Concentrating effects on the marine environment by using fewer LTFs than are currently existing and permitted was not considered to be of enough benefit to justify additional analysis. Those potential benefits would be offset by additional road building from the area served by the Elf Point LTF through an old-growth reserve, across Fish Creek recommended Wild and Scenic River corridor, through the beach fringe, and up to the Shoal Cove road system and the Shoal Cove LTF.

Forest Service Response to SEACC 27:

The LTF monitoring dive reports have been included in the Sea Level EIS planning record and summarized in the Marine Environment section of Chapter 3 (Final EIS).

Forest Service Response to SEACC 28:

The subsistence analysis takes into account cumulative effects of potential future increase in hunting levels. However, we have no way of predicting if, when, or how many, Ketchikan residents would be displaced from Prince of Wales Island and where they would choose to hunt if they were displaced. This led to a finding in the Final EIS that there will not be a significant possibility of a significant restriction of subsistence uses of deer, bear, marten and wolf due to cumulative effects and potential future demand. This finding applies to all alternatives, including the No-Action Alternative, due to trapping, hunting, and past and future timber harvesting, as well as the potential increase in hunting pressure as the human population increases. The analysis of habitat capability for deer assumed the worst case scenario of no habitat capability on State or other ownership. This information is included in the Final EIS.

The TLMP also included a subsistence analysis. This analysis concluded that implementation of the TLMP may result in a significant restriction to subsistence use of deer due to the potential effects of projects on abundance and distribution of these resources, and on competition for these resources. The Sea Level analysis is consistent with the TLMP subsistence analysis which indicates that for Saxman and Metlakatla, there should be no restriction, either now or in the future, on deer in those Wildlife Analysis Areas (WAAs) that provide 75 percent of the deer for these communities.

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The DEIS violates NEPA because it fails to inform the public about the location, rarity, and fate of the highest volume class timber stands in the project area, Volume Class VI and VII timber stands. Without this information, neither the decision maker nor the public can properly evaluate the short and long-term environmental consequences of the proposed action. See 40 C.F.R. 1502.16. In settling the Kelp Bay lawsuit, the Forest Service agreed to conduct more stringent and accurate resource inventories. The end of the pulp mill era does not excuse the Forest Service from doing everything it can to assure that high-grading on the Tongass is ended. See Section 301(f) of the TTRA.

SEACC
#29

XII. THE FOREST SERVICE IMPROPERLY DEFINED ITS PROPOSAL TO EXCLUDE CONSIDERATION OF OTHER PENDING PROPOSALS WHICH MAY HAVE SIGNIFICANT CUMULATIVE IMPACTS ON REVILLA ISLAND.

Before preparing an EIS for a particular project, the Forest Service is required to undertake a "scoping process" to identify what "issues" and "actions" will be analyzed and subject to a particular EIS. See 40 C.F.R. §§ 1501.7(a)(2), 1502.4(a). The CEQ regulations further require that "[c]umulative actions, which when viewed with other proposed actions have cumulatively significant impacts" must be considered together in a single EIS. Id. § 1508.25(a)(2). The CEQ regulations further caution that "[a] proposal may exist in fact as well as by agency declaration that one exists." Id. § 1508.23

SEACC
#30

The DEIS fails to consider cumulative actions which have cumulatively significant impacts on the environment of the surrounding area, including the Upper Carroll Timber Sale, the Swan Lake/ Lake Tyee Intertie, directly adjacent to the project area, the ongoing construction of the Ward Lake bypass road, which, "...eliminates the weak link of nay future interior Revilla Island road." (See Ketchikan Daily News, Oct. 14 1997)(attached) and the proposed road connecting Ketchikan with Shelter Cove and the Carroll Inlet road system. (See Ketchikan Daily News, Assembly Ensures Maintenance for Road Project, Sept 18. 1997)(attached)

The DEIS also fails to consider the cumulative impacts of other actions, including state timber sales and logging on private lands near the project area. The EIS further fails to give consideration to the likelihood that Native corporations will acquire title to and log additional portions of important old growth forest located within and/or directly adjacent to the Sea Level project area. Although the DEIS mentions the over selection issue, no information is given regarding total acreage involved or its location in the project area. According to Forest Service data, (see USFS Map, Selected but not Conveyed, ~ 1996 Tongass National Forest) the areas slated for over selection could lead to greatly increased overall impacts to the area's watersheds, subsistence values, recreational opportunities and road densities (among other issues.) None of this is disclosed in the DEIS.

Each of these "cumulative actions" have been actually proposed and could have cumulatively significant impacts on the fish, wildlife, subsistence uses and recreational settings of Revilla Island. The CEQ regulations require the Forest Service to evaluate the

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direct, indirect, and cumulative impacts from all of these proposed projects in one comprehensive EIS. 40 C.F.R. § 1508.25(a)(2).

Additionally, each of the above projects represent “connected actions,” since they each contribute to the development of a permanent road network for Revilla Island. CEQ regulations require “connected actions” to be considered together in a single EIS. See 40 C.F.R. § 1508.25(a)(1).

SEACC
#30

The Forest Service’s decision to restrict the scope of the Sea Level DEIS prevents it from educating itself and others about the larger context in which decisions affecting the environment of the surrounding area, thereby reducing the quality of the decisions made and rendering the EIS inadequate. Limiting the scope of this EIS is inconsistent with the purpose, goals, and procedures of NEPA. The failure to take a look at the cumulative impacts from actual proposed projects on the resources and uses of Revilla Island – this NEPA process – prevents this DEIS from contributing to the quality of the agency’s decision, in violation of the goals and “action-forcing” purpose of NEPA. See 40 C.F.R. §§ 1500.2(c), 1501.2, 1502.2, and 1502.5.

XIII. THE ANALYSIS OF THE CONDITION, EFFECTS, AND ACCESS MANAGEMENT IN THE DEIS IS INADEQUATE.

With nearly 50 percent of all the roads currently existing on Revilla Island within the project area, one would think the agency would have better information on the condition of these roads. The tables provided in Appendix E do not adequately explain what action is required or proposed to be taken to repair damaged road segments. It is really difficult to determine where exactly the failed drainage structures are located, the reason for the failure, and adequacy of proposed mitigation measures. Nor can it be determined from the DEIS why the agency is focusing on expansion of the road system. Clearly, the agency has failed to provide the appropriate level of maintenance and resource protection in the past. What basis does the agency have for assuring the public that any new roads will be built and maintained consistent with all appropriate standards and guidelines for both short and long-term protection of water quality? Why should the public pay the Forest Service to build any new roads?

SEACC
#31

Thank you for carefully reviewing these comments.

Best Regards,


Buck Lindekugel
Conservation Director


Tim Bristol
Grassroots Organizer

Forest Service Response to SEACC 29:

The Forest Service established four volume classes (i.e. 4, 5, 6, and 7) of commercial timber land in the 1979 Tongass Land Management Plan (amended 1985). There had been concerns regarding the reliability of this classification system (refer to Chapter 3, 1997 TLMP, Final EIS). In response to these concerns, a classification system utilizing the original classification system, soil types and percent slopes was developed (i.e. low-, medium-, and high-volume classes). For further definition of the new commercial-timber-land classification, refer to page 3-19 in Chapter 3 of the TLMP (1997) Final EIS, page 1-24 in Chapter 4 of Volume I of the Sea Level Draft EIS. Regarding the "location, rarity, and fate" of the highest volume (i.e. high-volume class) please refer to Table Silviculture and Timber-12, page 3-130, Chapter 3, Volume I of the Sea Level Draft EIS as well as Appendix H, Volume II of the Sea Level Draft EIS. Application of TLMP standards and guidelines for riparian buffers, steep slopes, and American Marten Standards and Guidelines, ensures that each harvest unit deletes from 10 percent to well over 50 percent of any given unit. It can be argued that riparian buffers often contain the highest volumes within a harvest unit. Marten Standards and Guidelines require the deferral of high-value marten habitat (high-volume stands, less than 1,500 feet in elevation). In VCU's with less than 33 percent harvest, the deferral ranges from 10 to 20 percent of the original stand structure. In harvest units in VCU's with greater than 33 percent harvested there will be 30 percent canopy closure (equivalent to half the unit acreage). We disagree with the contention that this constitutes high-grading.

Forest Service Response to SEACC 30:

Appendix A lists past, currently analyzed, and proposed future timber-harvest projects on the Tongass National Forest including those that have taken place, or are planned, for Revillagigedo Island. Cumulative effects of past and future projects have been included in the analysis, based on implementation of the TLMP (in all resource sections). The "risk" of the potential, partial conveyance of the Carroll Point Old-Growth Reserve to other ownership has been addressed in the Old Growth and Biodiversity section of Chapter 3 (Sea Level). The Swan-Tyee Inter-tie Project was approved in 1997 and would link the two hydroelectric facilities via a 57-mile electrical inter-tie. The south end of the powerline would begin at the Swan Lake facility and proceed north adjacent to existing roads along Carroll Inlet and then cross country to the north end of the island. Construction of the inter-tie is not a connected action as it is not closely related to the Sea Level Project nor is it automatically triggered by the Sea Level Project (or vice versa). The Project and the inter-tie are not interdependent parts of a larger action. The two projects are not similar actions within the context of 40 Code of Federal Regulations 1508.25. There is no proposed road connection between Ketchikan and the Carroll Inlet road system. "Any future interior Revilla Island road" is purely speculative. See the Forest Service Responses to ADFG 19, ADEC 9, EPA 7, FWS 14 and TCS 2.

The proposed Shelter Cove road connection is a separate project independent of the Sea Level project. The road-link project is a reasonably foreseeable, but unconnected action, with the Federal Highways Administration being the lead agency. The preliminary preferred road connection alternative routes have been identified, and are located entirely outside the Sea Level Project Area. The two proposed actions appear to be connected because of the possible road connections and opportunity to haul harvested timber back to Ketchikan. The dissimilar time lines do not make the road connection available for the Sea Level Project. We have included discussion of potential effects of future road connections on resources of the Project Area in the subsistence, recreation, and socioeconomic sections of the EIS.

We disagree with the comment that the scope of the Project analysis has led to an inadequate document. Per 40 CFR 1508.25, the scope of the Sea Level analysis is appropriate and has considered connected, cumulative, and similar actions on the Project Area as well as direct, indirect, and cumulative impacts.

Forest Service Response to SEACC 31:

The planning record of the Sea Level EIS includes a detailed inventory of road condition in the Project Area. The Forest Service will monitor all roads that are considered AFRPR "inactive". During the first 1 to 3 years after roads are constructed and still open, maintenance problem areas can be identified and corrected before the roads are closed. These areas and all other roads will then be monitored whether the road is in "inactive" or "closed" status. The roads will then be maintained in accordance with BMP's. Road condition surveys have been performed on the existing road system. Implementation monitoring is routinely conducted on all newly constructed road segments annually, per direction in monitoring protocols developed by the Interagency Monitoring and Evaluation Group. Providing timber for harvest to meet TLMP objectives without road building was considered but eliminated from detailed consideration as not meeting the purpose and need for The Project. See also the Forest Service Response to ADEC 5, ADEC 31, and EPA 10.

Letter #6: Eric Hummel

Pete,

I have been asked to submit the following supplementary comment to the Sea Level DEIS from Tongass Conservation Society and SEACC.

We are concerned about units 139 and 140. We request that they be deleted from the unit pool because they abut the Misty Fjords National Monument.

regards,
Eric Hummel

] Hummel
#1

Eric Hummel
rtkp@ptialaska.net

Community Health Information Project
Tongass Conservation Project
PO Box 23377
Ketchikan, AK 99901
ph: (907) 225-5827
text here email

Forest Service Response to Hummel 1:

The Sea Level Final EIS analyzes alternatives that do not include harvest Units 139 and 140. These two units are found only in Alternative 2. Although these units are not chosen for the Selected Alternative it does not preclude them from selection in future projects.

Letter #7: Natural Resource Defense Council, page 1



VIA TELEFAX AND FIRST CLASS MAIL

Bradley E. Powell
Forest Supervisor
Tongass NF-Ketchikan Area
Attn: Sea Level Draft EIS
Federal Building
Ketchikan, AK 99901

RECEIVED

SEP 03 1998

U.S. Forest Service
KNOX/ENM

RE: Comments on Sea Level Timber Sale DEIS

Dear Mr. Powell:

The Natural Resources Defense Council (NRDC) has received these comments on the Draft Environmental Impact Statement (DEIS) for the Sea Level Timber Sale. Like a number of conservation groups, NRDC filed an appeal of the Tongass Land Management Plan (TLMP) last year. Many of the deficiencies in TLMP are reflected in the Sea Level project, a project which does not significantly deviate from or mitigate the shortcomings of TLMP. We incorporate by reference our joint appeal (along with the Sitka Conservation Society) of TLMP, Appeal No. 97-13-00-0108, and the Intervenor Comments to that appeal filed by The Wilderness Society (TWS), et al.¹ Principal deficiencies in TLMP that are reflected in the Sea Level DEIS include: heavy reliance on even-aged and related regeneration logging; logging and road building in intact watersheds; failure to utilize opportunities to expand the deficient TLMP Old Growth Reserve (OGR) system; failure to apply for sec. 404 permits; adverse impacts to subsistence uses; logging in blocks of high volume strata old growth stands; failure to ensure the viability of specific old growth related wildlife species; and harm to the many non-timber users, and values of the forest entailed by the previously listed impacts.

While the Sea Level project should be reworked in its entirety because of its across the board reliance on a defective TLMP, several specific problem areas are worth calling to your attention. These include the following.

¹ Copies of these documents, along with their exhibits, were furnished to the Region contemporaneous with their original filing with the Chief's office in Washington, DC. For your convenience, we are attaching to the mailed original of these comments copies of the appeal and intervenor comments, without their exhibits.

USDA FOREST SERVICE KETCHIKAN AREA R E C E I V E D		
AUG 11 '98		
FOREST SUPERVISOR OFFICE		
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	CRAIG RD	
	KETCHIKAN RD	
	MISTY FIORDS NM	
	FOREST RD	
	OTHER (DEIS)	

Letter #7: Natural Resource Defense Council, page 2

Alternatives. A serious scientific and policy shortcoming of the new TLMP, still under appeal to the Chief, is its failure to consider managing the Forest from the existing road system, limiting additional logging and other development generally to previously developed areas. The Sea Level project perpetuates this failure. The DEIS reports that the alternative of managing the Sea Level area from the existing road system was rejected as not meeting the "intended purpose and need of the Project." DEIS, page 2-5. This is incorrect on its face since all three of the articulated purpose and need items identified in the DEIS would be advanced by such an alternative, although arguably not to as great a degree as in the Preferred Alternative. See DEIS, page 1-6 (listing as specific objectives: improving timber growth and productivity on suitable lands, contributing to timber supply to meet market demand, and providing employment opportunities). Indeed were it not possible to advance the articulated purpose and need for the project with no substantial additional road construction the purpose and need would almost certainly have been illegally, narrowly drawn. For reasons to eliminate substantial additional road construction on the Tongass, see NRDC's TLMP Appeal and TWS' TLMP Intervenor Comments.

NRDC
#1

Market Demand. The DEIS lacks a demand analysis for timber markets (as opposed to capacity) in Southeast Alaska, under-reports the volume undergoing NEPA analysis in other sales (as listed in current Statements of Proposed Activities), fails to explain this project's contribution to meeting actual current demand, and does not reveal where and through what process the Ketchikan Area portion of the Tongass' projected production was assigned. In addition, the proffered argument for maintaining an unharvested supply of three years timber consumption is badly flawed in several key regards. First, there is no effort to compare the relationship of past supply to past market stability (the putative reason for the long supply). Second, there is no effort to substantiate this inflated supply theory by reference to accepted business practices elsewhere in the United States. Third, there is no explanation for how a three year supply would contribute to "stability", nor is this a plausible claim; in particular, maintaining such a large supply available to the industry almost certainly contributes to instability in local employment as it facilitates large swings in mill operating rates. There is no justification offered, nor can we imagine one, for excluding the volume under contract to the Ketchikan Pulp

NRDC
#2

G Appendix

Letter #7: Natural Resource Defense Council, page 3

Company from what is available to the industry in Southeast Alaska. In the related category of "Local Employment Opportunities," full disclosure is needed of the likelihood for export waivers for whole logs coming from the Tongass, as has been increasingly a practice in recent years, and its impact on local employment projections.

NRDC
#2

Fragmentation of Old Growth Blocks. Probably TLMP's greatest shortcomings are in the area of fragmentation of old growth habitat blocks, particularly those with a substantial high volume component. These are a critical and increasingly scarce habitat component for many species on the Tongass. The DEIS provides more fragmentation information than many Tongass EISs. However, it still does not begin adequately to reveal how the proposed project would open up important old growth blocks to logging and other development. Despite the substantial past logging in the project area, key habitat blocks with substantial high volume components remain in the upper portions of VCU 746, in-land in VCU 753 (above Minx Flats), throughout VCU 755, and near prior logging on Carroll Point. The DEIS includes useful maps on the status of old growth blocks in the project area in 1954 and at the present time. However, these maps are deficient in not showing the high-volume component of the habitat blocks. In addition, maps are not provided for displaying the old growth habitat block impacts of the various alternatives. The one post-harvest map shows the project area 100 years from now, a total of 150 years after the onset of logging. Owing to a non-scientific definition of "old growth" that apparently was used, this map shows substantial re-growth of old growth habitat blocks relative to current conditions. There is no factual basis for describing second growth at 100-150 years as providing comparable habitat values to actual old growth on the Tongass. In addition, the status of habitat during the next century is of critical significance to the Forest's ability to maintain viable species of old growth associated wildlife. Since raw numbers tell very little about the full consequences of habitat fragmentation, the old growth block acreage figures provided in the DEIS are of little use. They do reveal, however, that large intact blocks of old growth habitat in the project area have been dramatically reduced from pre-logging days. This underscores the importance of maintaining those blocks that remain.

NRDC
#3

Old Growth Reserves. The inadequacies of TLMP's old growth reserve strategy are detailed at length in the NRDC

NRDC
#4

Forest Service Response to NRDC 1:

The Sea Level Project is consistent with the revised TLMP. Your appeal of the TLMP revision is noted. The alternatives to the proposed action provide an adequate range from which the Deciding Officer can select based on the analysis of effects. See the Forest Service Responses to EPA 5, SEACC 6, and SEACC 8.

Forest Service Response to NRDC 2:

Timber currently under contract to the Ketchikan Pulp Company does not satisfy the need (demand) for timber by other wood-product industries including the Wrangell mill and the Seley mill. See the Forest Service Responses to TCS 1 and SEACC 9.

Forest Service Response to NRDC 3

Due to limitations of scale, we are unable to include the different volume strata on the maps of old-growth blocks. However the volume strata is displayed on the ROD map and the Current Condition map. Such a map would be uncradable in the document. Volume strata were not included on the maps for the various alternatives because it is difficult to see the changes between the alternatives at such a scale as well. In fact, just looking at the maps, it is difficult to find any of the differences, and takes a lot of time comparing all the maps to find the differences. Forest fragmentation has been taken into account in developing the TLMP old-growth reserve strategy. We have also considered the relocation of the Mop Point Small Old-Growth Reserve to a location just south of Gnat Cove based on an interagency recommendation.

The unconventional definition of old-growth forest is due to the necessity to query our database. We needed to identify parameters in the database on which we could base our queries, to get an estimate of old-growth forest acres. Using these parameters we were able to identify those stands that have typical interior forest conditions associated with old-growth forests.

Figure Old Growth-8 in the Draft EIS does show some regrowth of old-growth forest. These stands have trees that will reach 150 years of age by the year 2095. This map has been reviewed and revised for the Final EIS assuming no regrowth of old-growth forest.

We did not reanalyze block size for the Final EIS. The Final EIS alternatives did not change enough to show much difference in block sizes. Also, fragmentation must be looked at on a larger scale than the Project Area. The TLMP EIS analyzed the effects on fragmentation of implementing the TLMP. The Sea Level Project is consistent with the TLMP. The TLMP minimizes fragmentation through the old-growth habitat reserve strategy. There will likely be fragmented areas in project areas between these reserves. The fragmentation analysis would not effect the decision in this Project. For these reasons, we chose not to repeat the block-size analysis in the Final EIS.

Letter #7: Natural Resource Defense Council, page 4

TLMP Appeal and the TWS TLMP Intervenor Comments. The old growth blocks, particularly those with a substantial high volume stands, are the elements from which an adequate reserve system should be designed. In addition to their small size and wide distribution, inadequacies specific to the OGR in the Sea Level area include: failure to include the best available habitat in VCU 755, and in the Carroll Point medium OGR, inclusion of large acreage of potentially over-selected lands along with non-forested habitat in the Carroll Point OGR, and lack of connectivity among old growth reserves. Although the DEIS includes a claimed enhancement of corridors through the Minx Flats area, these corridors are inadequate. They do not fully compensate for past beach fringe logging, they are not wide enough to provide interior habitat (see comments of U.S. Fish and Wildlife Service on Control Lake DEIS, noting that research shows edge effects extend at least 660 ft. into the forest in Southeast Alaska). They do not allow for the windthrow that is prevalent in the area. And they are not adequately redundant, as the scientific literature strongly recommends.

NRDC
#4

Species Specific Wildlife Concerns. In addition to relying on TLMP's inadequate wildlife viability strategy, the DEIS misrepresents the potential impact on a number of old growth associated wildlife species. In the case of the marten, the DEIS wrongly fails to reveal the species' high association with volume class 5+ timber stands. See generally, NRDC TLMP Appeal, TWS TLMP Intervenor Comments. The sensitivity of these species to habitat fragmentation is also inadequately revealed and discussed. Id. In particular, the likelihood that marten will disappear once 20-30% of the forest cover has been removed, is not anywhere discussed. See NRDC TLMP Appeal. For this and related reasons, it is wrong to characterize retention of a relatively small percent of a logged area as beneficial for marten. See TWS TLMP Intervenor Comments. The association of goshawks with the same higher volume stands is only obliquely mentioned. In addition, for goshawks, the extreme difficulty of detection makes it a mistake not to require ongoing efforts to locate the birds and their nests in the sale area. The DEIS also understates wildlife impacts by assuming that roads will not adversely effect wildlife since they are not connected to the large Ketchikan road system. This ignores the strong potential for use of the road system by hunters, trappers, and recreationists who gain access to the road system by skiff, using log transfer facilities and other access points. No substantiation is provided in the

NRDC
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NRDC
#6

NRDC
#7

Forest Service Response to NRDC 4:

The adequacy of the TLMP viable-population strategy is a TLMP issue and outside the scope of this Project. This includes the size and composition of the Carroll Point Medium Old-Growth Habitat Reserve. See also, the Forest Service Response to Comment ADFG 11. The Small Old-Growth Habitat Reserves in each VCU (including 7552) were discussed during an interagency biologist meeting on site in June 1998. All but one, the Mop Point Small Old-Growth Habitat Reserve, were recommended to remain in place as proposed. See also, the Forest Service Response to Comment ADFG 8. For discussion of overselected lands in the Carroll Point Medium Old-Growth Reserve, see the Forest Service Response to Comment ADFG 11.

The EIS does not claim an enhancement of connecting corridors. We identified corridors in addition to the beach fringe because of past harvest in some of the beach fringe. There is no requirement in the revised TLMP and the TPIT clarification, to provide for more than one connecting corridor to another old-growth reserve or nondevelopment LUD. See also the Forest Service Response to Comment FWS 1, FWS 2, ADFG 8, ADFG 10, and ADFG 11.

Forest Service Response to NRDC 5:

The Draft EIS and Final EIS show the amount of high-value marten habitat harvested for each alternative. High-value marten habitat is defined as high-volume strata below 1,500 feet elevation. This roughly equates to volume class 5 and above, plus some volume class 4. In our effort to stay consistent with the TLMP, we have used the volume strata as defined in the TLMP.

We recognize that marten are sensitive to forest fragmentation and canopy removal. The TLMP addressed this concern by including the Marten Standards and Guidelines as part of its viable-population strategy. We followed these guidelines during the planning of this Project (see Forest Service Response to Comment ADFG 15). The viable-population strategy in the TLMP is an issue currently under appeal. The Chief has not yet issued a decision on the TLMP appeal. The administrative record for the TLMP Revision shows that the old-growth reserve strategy provides for viable populations of old-growth-dependant species, including the American marten and the Alexander Archipelago wolf. The environmental effects of the TLMP are well documented. Documentation of the analysis of the effects of the Sea Level Project on old growth and biodiversity, as well as on marten and wolves, is detailed and consistent with direction contained in the TLMP.

Forest Service Response to NRDC 6:

We made considerable effort to locate goshawk nests prior to Project planning (see Map 1, Biological Assessment and Biological Evaluation, Appendix C). A discussion of the amount of goshawk field surveys completed for the Project can be found in Appendix C under the heading "Field Surveys". None were found.

DEIS for claims that current road usage is low, and no analysis of the potential for future increases in usage is provided at all. In addition, the DEIS incorrectly assumes that future road closures can be counted on to deal with any developing problems from human access. At a minimum, given the documented failure to close effectively the existing roads (see, e.g., NRDC TLMP Appeal) any EIS needs to include all available evidence about the history of road closures, failure to close roads, and closure enforcement issues in the Ketchikan.

NRDC
#7

Section 404 Permit. At least in the absence of guaranteed, effective road closures to all non-logging vehicles (including a demonstratively effective enforcement program), it does not appear that road construction in connection with this project will qualify for a section 404 permit exemption.

NRDC
#8

High-Grading. High volume old growth, most importantly the volume class 6 and 7 stands addressed by the Tongass Timber Reform Act, but the broader category of "high volume strata" created in the course of TLMP planning as well, are the biological heart of the Tongass. Very substantial scientific opinion exists about the need to stop logging this critical habitat component. See NRDC TLMP Appeal. Although selective logging of some trees in high volume stands in the immediate vicinity of past clearcutting would have lesser impacts, any broader liquidation of these stands needs to be avoided.

NRDC
#9

Clearcutting. TLMP and its ROD do not include an adequate justification for reliance on clearcutting (with or without retention trees), the far-reaching adverse impacts of which on fish and wildlife are well-described in the scientific literature. See id. These shortcomings are not rectified in the Sea Level project. In particular, the DEIS presents no evidence for its position that over the life of a timber rotation clearcutting will control dwarf mistletoe in hemlock, and that other methods do not control it adequately. Nor is the possible biologically adverse impact of removing dwarf mistletoe examined. The DEIS provides conflicting views about whether cedar regeneration is reliably furthered by clearcutting (compare pp. 3-96, 3-103, 3-110). It also does not examine the potential impacts of converting the natural forest to a different mix of species with a different set of susceptibilities and associated plant and animal species, instead glibly characterizing the

NRDC
#10

NRDC
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NRDC
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Forest Service Response to NRDC 7:

In the Wildlife Section of Chapter 3 (Final EIS) the effects of roads are discussed for several species in the wildlife section, for which roads are a concern. Direct effects take into account existing road use, which is low compared to other areas more easily accessed by vehicles. Cumulative effects take into account the future potential for increased road use through road connections and population increases. For cumulative effects, this takes into account normal use, as if the road is easily accessed.

As discussed in the Draft EIS and Final EIS, we believe the road closures are adequate for stopping most vehicle traffic, especially as the roads are not connected to a community road system. Some all-terrain-vehicles may pass some of the barriers, but most will be stopped by pulled culverts and bridges. We are continually improving our road closure methods to protect resources and meet Alaska Forest and Resources Practices Act standards and we will continue those efforts including monitoring in the Sea Level Project.

Forest Service Response to NRDC 8:

It is the Forest Service opinion that road construction in connection with this Project is intended for silvicultural purposes and meets the standards for the Section 404 silvicultural exemption. A representative of the U.S. Army Corps of Engineers has been involved with this Project since well before the Draft EIS was published and has provided comments during the environmental analysis.

Forest Service Response to NRDC 9:

Substantial scientific opinion regarding the value of high-volume old growth, guided the environmental analysis that formed the basis of the TLMP revision. See the Forest Service Response to ADFG 3 and SEACC 29.

Forest Service Response to NRDC 10:

We disagree with the contention that clearcutting is not adequately justified in the Sea Level EIS. This is a TLMP issue currently under appeal to the Chief of the Forest Service. In the opinion of the Forest Service, the administrative record for the TLMP revision demonstrates that the use of clearcutting was properly analyzed and is consistent with all requirements. See summary table and graph in Chapter 2 for breakdown of silvicultural systems used. The impact of hemlock dwarf-mistletoe and methods of reducing damage from the disease in managed stands, have been established in several research studies. See the TLMP (1997) for more information. In unmanaged stands dwarf-mistletoe is absent from some stands and in other stands almost every hemlock is infected. We recognize that dwarf-mistletoe is a natural component of the forest and in itself provides diversity of structure taken advantage of by other species. Management of timber stands in this Project is designed to control the spread of dwarf-mistletoe, not remove it completely.

Forest Service Response to NRDC 11:

The Draft EIS pages that you wished to have compared, attempt to point out that without a good light source cedar regeneration will be very low. A simplified example may be to say 10 cedars regenerate per acre in a partial cutting. However, 50 cedars per acre regenerate in a clearcut. If there is a higher mortality rate in the clearcut, say 30 percent, over the partial cut, say 10 percent, you still have 35 cedars as opposed to 9.

Forest Service Response to NRDC 12:

The majority of prescriptions for the stands in this Project require that the species component of the managed stand emulate as closely as is practicable the original structure of the stand. This may require planting and/or precommercial thinning to adjust the proportion of each species composition.

Letter #7: Natural Resource Defense Council, page 6

promotion of spruce at the expense of other tree species as increasing "diversity" from the natural condition. See id. p. 1-7. The DEIS also mischaracterizes clearcutting and seed tree cutting as mimicking large scale natural disturbance, though elsewhere it concedes that windthrow typically leaves behind a windfirm component of mature trees and a layer of natural regeneration (in addition, windthrow leaves down logs that play a role in ecological processes.

NRDC
#12

NRDC
#13

Based on the above, NRDC requests that this project be substantially redesigned for less-intensive logging in close proximity to existing developed areas, utilizing the existing road infrastructure, maintaining high volume old growth for its importance to wildlife and other non-timber values, accounting for the possibility of pending land selections, and providing better protection for other resource uses. Thank you for this opportunity to comment, and thank you for considering NRDC's views.

NRDC
#14

Very truly yours,



Nathaniel Lawrence
Senior Attorney

Encls. (via first class mail)

Forest Service Response to NRDC 13:

This reference to the Draft EIS mischaracterising clearcutting as mimicking large scale natural disturbance is taken out of context. The Draft EIS stated that a variant of clearcutting that would remove only merchantable trees would mimic large scale disturbance. The definition of seed-tree cutting, given in the Draft EIS, states that it leaves a few mature trees per acre. In response to the concern about availability of down logs: with clearcuts in Southeast Alaska, defect often ranges up to 40 percent and there are usually large amounts of downed wood present after harvest.

Forest Service Response to NRDC 14:

This Project is characterized by less intensive logging than has occurred on the Tongass National Forest in the past. It utilizes the existing road network, minimizes the construction of new roads while meeting the purpose and need for the Project, and maintains a great deal of high-volume old growth through the application of TLMP land-use allocations for old-growth reserves, riparian buffers, and deferrals of areas within harvest-unit boundaries to meet marten and other resource standards and guidelines.

Letter #8: Margaret Clabby, page 1

Pete,
Please accept the following comments from Marg Clabby to the Sea Level Timber Sale. I have sent them both in the body of the message and in a MS Word File. Let me know if you need them in paper, too
eric hummel

Brad Powell
Forest Supervisor, Tongass National Forest-Ketchikan Area
Federal Building
Ketchikan AK 99901

Aug. 6, 98

Re: Sea Level Draft EIS Comments

Dear Mr. Powell,

The Sea Level Project is close to my home. My family and my neighbors use the area for activities such as fishing, plant and berry harvesting, camping, boating, and hiking.

Please consider the following comments:

General comments:

1. The volume of timber harvest proposed for the area should be reduced in order to adequately protect subsistence uses, species viability, recreational uses, water quality, and long term availability of high quality timber.
2. Long term cumulative effects should be more accurately portrayed and include the multiple impacts from adjacent non-forest service lands.
3. The positive economic benefits have been overestimated while the negative economics (which are sometimes harder to quantify) have been underestimated. The number of jobs created have been overestimated (i.e. not consistent with the real figures).
4. Proposed old growth fragmentation and reduction in roadless areas will permanently eliminate potential uses and options for the area.

Volume I, Ch. 3--Environment and Effects

pg. 3-2, 4th paragraph says that under current forest service planning, by 2054 most areas within LUDs permitting timber harvest will be converted from old-growth to second growth timber management. In other words, the intent is to harvest ALL of the old growth (which has taken many hundreds of years to grow) within the first 100 yrs. of industrial timber harvest (1954-2054) and replace it with less valuable second growth. This is not sustainable, economically sensible timber harvest. It's as if someone sold off all their inherited gold and diamond jewelry to send their first child to college and started collecting cheap imitations--Then when it came time to send their second child to college (and fund it by selling their current jewelry collection), they would notice that replacing the old valuable jewelry with cheaper stuff is not turning out to be such a good deal for the second child. I'm worried about future generations and the quality and diversity of wood we will leave them. Since the plan is to convert every stick of old growth to cash very soon, after 2054 (when my grandchildren have the opportunity to "profit" from timber sales on the Tongass), there will not be ANY old growth left in the lands permitting timber harvest. This is wrong. Lands which allow timber harvest should be managed as forests (i.e. with natural growth to maturity and allowing for development of tight grained, large timber), not as cropland for an inferior product harvested so often that it depletes the soil. Using a rotation more similar to the real age of the currently harvested trees would help with this--e.g. since the trees being harvested now are all 200 years and older, at least a 200 yr. rotation should be planned for.

] Clabby #1

] Clabby #2

] Clabby #3

] Clabby #4

] Clabby #5

Forest Service Response to Clabby 1:

All alternatives analyzed in the Sea Level EIS adequately protect subsistence use, species viability, recreational uses, water quality, and long-term availability of high quality timber. Effects analysis for these resources is included in the Final EIS.

Forest Service Response to Clabby 2:

Cumulative effects of past actions, the proposed action, and the implementation of the TLMP have been documented for all resources. The effects of management of non-National Forest System Lands has been documented as well, particularly in the wildlife section of Chapter 3. See the Forest Service Response to EPA 7 and SEACC 30.

Forest Service Response to Clabby 3:

Projected wood-product jobs and income were calculated by alternative using factors derived from the IMPLAN database model (USDA Forest Service 1995) as applied to the base stumpage values (i.e. mid-market analysis). The mid-market analysis is used primarily to compare alternatives on a leveled economic playing field. It is not a tool that can be used to accurately display future and therefore unknown market conditions. Please refer to Table Socioeconomic-3, page 3-273, Volume I of the Sea Level Draft EIS. You are correct in your assertion that negative economics are "... sometimes harder to quantify". Nothing in the actions proposed by the Sea Level Project precludes other economic uses of the area. Due to limited existing public use of the Project Area, impacts to such activities as eco-tourism and recreational hunting and/or fishing, is expected to be minimal. It is difficult to respond to the assertion that the number of jobs created has been overestimated when no reference is provided. See also the Forest Service Response to SEACC 23.

Forest Service Response to Clabby 4:

Potential uses and options for this Area, including roadless designation, are described and analyzed in the TLMP. A desired future condition for each Land Use Designation (LUD) in the Sea Level Project Area is defined in the TLMP. The Sea Level Project is designed to move the Area toward that desired future condition while contributing toward meeting the goals and objectives of the TLMP. See also the Forest Service Response to SEACC 8.

Forest Service Response to Clabby 5:

It should be noted that much of the identified suitable timber would be harvested within the Timber Production LUDs over the life of the TLMP. What was not stated, is that given full implementation of the TLMP, by the year 2095, 84 percent of the productive old growth that was present in 1954 will still be present. That is equal to 90 percent of the currently existing old growth (TLMP Final EIS, Appendix N, page N-24). Within the Timber Production LUDs, not all timber will be harvested. Given riparian buffers, deletions for soils protection, and deletions for marten and other resource standards and guidelines, much of the forest within that Timber Production LUD will remain unharvested. In the Project Area, 53 percent of the 92,000-acres is in the Timber Production LUD. Another 18 percent is the Modified Landscape LUD. Both allow timber harvest. Twenty-five percent of the Project Area is in nondevelopment LUDs, including old-growth habitat, semi-remote recreation, and wild and scenic river LUDs which do not permit timber harvest.

Current Forest Service policy (TLMP 1997) on stand rotation is that even-aged stands shall not be scheduled for harvest before they have reached 95 percent of culmination of mean annual increment of a given timber stand. This means that rotation can vary by site index from 100 to 130 years. The Alaska Region has developed a Silviculture Information System (SIS) to aid in tracking and planning of second-growth management priorities and prescriptions.

Old-growth harvesting will continue over the next 70 years (TLMP Final EIS page 3-300) with second-growth harvest as a growing component of the overall timber program over that period. Though old-growth harvest will decline over time, some old-growth harvest is anticipated over the entire planning horizon (150 years). Premium grades of timber are now available and will continue to be available through timber sales and secondary markets. The supply of premium grades will decline over time as faster growing and shorter rotation second growth provides higher yields but a lower proportion of premium grades. Some LUDs such as Modified Landscape and Scenic Viewshed utilize extended rotations and uneven-aged management to meet TLMP LUD management objectives. This will extend the time-frame in which high-quality old growth (as opposed to old second growth) will be harvested.

Letter #8: Margaret Clabby, page 2

pg. 3-4 second paragraph under abiotic components-- The statements about the weather in the area just don't seem correct. Says that normal temperatures range from mid-40s to mid 60s in the summer. It is quite normal to have temperatures above the mid 60s in the summer. The range of normal extends into the mid 70s. Also it says that normal temperatures range from the high teens to the low 40s in the winter. It is quite normal to have temperatures below and above these temperatures in the winter. Also, it says that snow accumulation below 500 ft. is short-lived, generally melting within a few days due to warmer temperatures and rain. While in some years this statement is fairly accurate, in other years, we can have freezing weather for many weeks (including below 500 ft.) with snow remaining on the ground for extended periods. It is during these periods that the coastal old growth areas are particularly interesting compared to harvested areas (as they provide very different conditions for animals at ground level). As a resident since 1980, I'd guess that somewhere around every 3rd or 4th year we have a cold winter, with weeks and months of below freezing weather (and frozen pipes all over town, including beach residences at Herring Cove not far from the project area). The following paragraph indicates that moderate temperatures and ample precipitation produce good growing conditions for commercial forest species. Since the temperature assumptions are incorrect, I believe that this statement is not fully correct. Our temperatures are not always moderate, and our precipitation not always abundant. In our natural old growth forests, there is a lot of buffering that goes on to deal with the heat waves, droughts, freezing spells, etc. which we get. Some of these mechanisms are not available after clearcutting (e.g. with disturbed soils, waters, different shading, etc.)

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pg. 3-6 and 3-7 Air Quality--This section needs revision for accuracy.

Also, just an editorial comment is that the whole 2 pages are strange. They give a lot of detail about some things which are basically irrelevant to this project and little detail about things that are important to this project. Some of the statements are very outdated and no longer accurate or relevant. Some specifics: 1. Affected environment, 1st paragraph, 3rd sentence. You list "local sources of airborne particulates". This list seems arbitrary and incomplete. The following sources are equal to or greater than sources which you have listed, and so should be added to the list: Herring Bay Lumber woodwaste burner, Seley Seaborne Lumber burner on Gravina Island. The plumes from these sources often extend visibly for over a mile, and sometimes are brown or blackish. The Herring Bay burner has no permit (There was a start on having them get a permit after numerous complaints several years back, but according to people at the AK Dept. of Environmental Conservation, their emissions are uncontrolled and could never be legally permitted). ADEC has observed the plume from the mill extending across to the project area. The burner at Seley's facility has become a rather dramatic addition to air pollution and is quite visible. 2. pg 3-7 effects on air quality outside the project area--This section discusses only the effects on air quality if the wood goes to KPC. While this is appropriate to mention, please add that supplying wood to any facility which burns wastewood (or the usual of wastewood and oil) will result in significant effects on air quality. Currently, the two local operating mills (Seaborne Lumber on Gravina and Herring Bay Lumber just beyond the project boundary) both have unregulated woodwaste burners which distribute particulates, odors, and unmeasured contaminants throughout the area (i.e. for miles). These are very real consequences to air quality. I've always thought that the forest service shouldn't be permitted to sell timber to facilities which are causing air or water pollution at their facilities, but since this is apparently not your policy, then at least please acknowledge this effect in the EIS. 2nd paragraph under effect on air quality outside project area is totally out of date regarding KPC permit and monitoring situation. Perhaps it would be appropriate to reference the current remedial investigation/feasibility study which is in progress to identify and remediate contaminated areas resulting from

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Letter #8: Margaret Clabby, page 3

the mill air and water pollutants. Several volumes full of data are available, including soil and water cistern samples from air dispersion areas around the mill (which show significantly elevated concentrations of dioxins and other contaminants).

pg. 3-47, last sentence indicates that "approximately 50% (45,948 acres) of the Sea Level Project Area is classified as wetland". These wetlands are extremely valuable, variously functioning as storage of winter snowpack, recharge of down-slope streams and aquifers, wildlife habitat for deer, bear, mountain goats, fish and other aquatic life, shorebirds, waterfowl, mink, river otter, areas where chemicals and pollutants are diluted, areas of flood conveyance, deposition of sediment and nutrient storage, habitat for rare plants.

pg 3-56 last paragraph indicates that timber harvest has been deferred on two types of forested wetlands due to TLMP directives. The "deferral" of timber harvest only delays it until a later time. Basically, this is just one example of how the overall assumptions about available harvestable timber are inflated. The timber on these wetlands with poor draining soil (and probable poor regrowth) is being counted on in the overall timber base but is mythical because it is not appropriate for harvest. Throughout this EIS, temporary deferrals of areas of units are used as environmental protections. But the overall plan requires that eventually these areas be cut to support the predicted volume. Basically there is a need to recalculate the real timber volume available on the Sea Level Project lands available for timber harvest (after removing environmentally sensitive areas such as certain types of wetland soils) and then lower the current and future cut levels accordingly.

pg. 3-58 Cumulative Effects--Floodplains and Wetlands--says that the intent is to eventually harvest an additional 7,730 acres of forested wetlands and 37 acres of floodplains. 60 total miles of road will have been constructed on wetlands pg. 3-46 indicates that 14% of all floodplain areas within the project area were harvested between 1954 and 1997, with 124 floodplain acres harvested (mostly in the Licking Creek, Calamity, and Marble Creek watersheds. Hence 161 acres of floodplains have been or will be harvested out of a total of 1,312 in the project area (more than 12%)

pg. 3-70,71--Old Growth and Biodiversity. This project has already had exceedingly high harvest which has reduced old growth from 32,562 acres in 1954 to 17,534 acres in 1997. Unfragmented blocks of old growth (blocks of at least 1000 contiguous acres) have been reduced from 26,412 acres to 5,695 acres. This is an astounding amount of fragmentation to have taken place within just 43 years. Currently proposed alternatives have harvest units and roading which will further fragment the remaining old growth areas, with eventual decline in species diversity. This is unacceptable. Figures old growth 1 and 2 (pg. 3-73 and 3-74) certainly show the severe decline in old growth patches. Prior to forest service management, the George Inlet, Carroll Inlet, Thorne Arm, Misty Fiords area had abundant wildlife and great connectivity and travel corridors (primarily along the creek valleys and beachside forested areas.) pg. 3-75 This system has been severely disturbed, and the proposed activities will worsen an already bad situation.

Viable populations--Proposed alternatives, including the preferred alternative, do not provide for maintenance of viable populations in the long term. Pg.3-76 and 3-77 mention two of the problems.

a. While the Carroll Point medium old-growth reserve may function appropriately at this time, there are no long term restrictions to keep it from being conveyed to private property. As you state in the DEIS, if this area is selected and conveyed to private property, it could be altered so that it no longer functions as an old-growth habitat reserve area. If that were to happen, there would not be enough other unharvested area nearby to make up for the loss of this key component of the viable populations strategy.

Clabby #7

Clabby #8

Clabby #9

Clabby #10

Clabby #11

Clabby #12

Forest Service Response to Clabby 6:

Your observations on local climatic conditions have been noted. The weather information in the Sea Level EIS is based upon long term climate data from the U.S. Weather Bureau station at Annette Island, Alaska. It is provided to give those unfamiliar with the Project Area the idea that the general climate is cool and wet, even though we've all experienced hot, dry, and dusty weather in the Area.

Forest Service Response to Clabby 7:

Your observations regarding air-quality conditions in the Ketchikan vicinity have been noted. The discussion of the effects of the proposed action upon air quality outside of the Project Area is included in the EIS. It is the responsibility of timber processors to meet air-quality standards established by the Environmental Protection Agency (EPA) and the Alaska Department of Environmental Conservation (ADEC). Enforcement of air-quality standards is the responsibility of the EPA and the ADEC. This remains an issue outside the scope of the Sea Level EIS.

Forest Service Response to Clabby 8:

We agree that wetlands are important. Analysis of the effects of the Project upon wetland functions and values is included in Chapter 3 of the EIS.

Forest Service Response to Clabby 9:

The term "deferred" in this case is meant as, deleted from the suitable timber base where these forested wetland types occur. Incidental harvest of minor inclusions within a unit boundary may be unavoidable. These Kaikli and Maybeso soils are not included in the suitable timber base upon which the allowable sale quantity is calculated. These "deferred" areas will not be harvested in the future.

The Final EIS contains general information on timber-site productivity class for the Sea Level Project Area. More detailed information on timber site-productivity class is available in the Sea Level planning record files. Presently a significant portion of the forested wetlands within the Project Area are classified as suitable commercial forest land. A significant amount of commercial forest land on hydric or wetland soils has been harvested in the past on the Ketchikan Area. Regeneration surveys conducted on these sites have not indicated any deficiency in reproduction. Growth and yield potential on these sites is generally estimated to be low, with site index for Sitka spruce generally estimated to range from 55 to 80 feet at an age of 100 years.

Forest Service Response to Clabby 10:

Your comments regarding past and future harvest on floodplains have been noted. The TLMP standards and guidelines regarding activities in riparian areas are applied in all cases except in Unit 133. See also Forest Service Response to Clabby 9.

Forest Service Response to Clabby 11:

The TLMP acknowledges that there will be harvest in the development LUDs. The desired future condition for the Timber Production LUD, for example, indicates that "an extensive road system provides access for timber management activities..." and that "...management activities will generally dominate most seen areas." (TLMP, page 3-144) The TLMP old-growth reserve strategy is intended to provide for biological diversity across the Tongass. "The strategy is designed to reduce fragmentation of old-growth habitat on the Forest, and has been developed through careful analysis and integration of the best scientific information available on this subject" (TLMP ROD 1997).

Letter #8: Margaret Clabby, page 4

About 4,020 acres of productive old growth forest in the project area could be lost, leaving only 1,180 acres of productive old-growth within the reserve. You say that "the remaining portion of the old-growth reserve would not meet the intended requirements for size and spacing of medium old-growth reserves" and "would leave a gap in the TLMP 97 viable population strategy." You say that, if this loss were to happen, the 4020 acres would have to be made up from the Minx Flats area near Gnat Cove. "The old growth reserve would need to be enlarged almost to Shoal Cove to pick up the needed productive old-growth", using units which are proposed for harvest in Alternatives 2 and 3. Hence, your preferred alternative will not leave enough unharvested areas to provide sufficient habitat areas if portions of the Carroll pt. habitat reserve were privatized (a very real possibility, given that the area has no permanent protected status, is close to Ketchikan, and is part of a dwindling base of suitable selectable lands).

b. The Minx Flats small old-growth reserve (as proposed) does not meet the TLMP requirement for total acreage. (pg. 3-77, last paragraph).

Basically, this proposal results in overharvesting the area and counting on areas which have no permanent protections to provide wildlife viability. Either these wildlife protection areas (e.g. Carroll Pt.) need to be put in permanent protected status (not just gee-whiz, we don't think they'll get selected and developed right away) or an alternative for this project should be selected which retains sufficient old growth acreage and productive old growth (outside the Carroll Pt. reserve) to provide for viable populations in case those lands are conveyed to private property.

II. pg. 3-79 "Connecting Corridors" (as required in TLMP 97) While the corridors may look sufficient on the map (for connecting habitat reserves), the realities of the project area result in the planned corridors being insufficient. For example, large stretches of beach fringe "corridor" on Carroll Inlet are mapped; yet, this area has been previously clearcut and has grown back to impassable second growth--essentially a blocked corridor. According to pg. 3-79, paragraph 3, TLMP directs the F.S. "to provide stands, where they exist, of productive old-growth forest to function as connecting corridors". Using the beach corridor above Shoal Cove is one example of where additional inland corridor is needed because of the previous harvest of this "corridor". Another area with insufficient connecting corridors is the small segment of land between Gnat Cove on Carroll Inlet and Thorne Arm. The entire Carroll Pt. habitat reserve area (a peninsula) is practically completely cut off from the rest of the island with previous and proposed harvest areas. I appreciate that you made an attempt to add additional travel corridors to help alleviate these problems, but it does not seem sufficient.

Unfragmented old growth blocks and quality connecting corridors are essential. Because of the severe fragmentation, overharvesting of high volume, high quality old growth, large amounts of harvest in riparian zones and valuable wetlands, etc. done in the past in this area, your ability to maintain biodiversity, species viability and a health environment depends on extremely limited timber harvest during the coming decades in this project area. Please consider dropping total volume and eliminating some proposed units in order to protect other forest uses. At least deferring sales would be appropriate since the timber market is so bad and there is such limited local processing right now.

III. pg 3-141 Marine Mammals states that humpback whales and steller sea lions are "occasionally" found in waters bordering the Project Area. This should be corrected to state that humpback whales frequent the waters adjacent to the project area on an annual basis. Documentation of this is available from my own records of personal observation as well as from other residents of Herring Cove, since we

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Forest Service Response to Clabby 12:

The TLMP old-growth reserve strategy provides for viable populations of old-growth dependant species. The issue of relocating the Carroll Point Medium Old-Growth Habitat Reserve is beyond the scope of this Project. The TPIT clarification provides for discussions on small old-growth habitat reserve locations, but does not provide for relocating medium old-growth reserves.

According to the Tongass Plan Implementation Team (TPIT) clarification, "the project level decision will consider and document the environmental effects and risks associated with the possible future conveyance". We have displayed this information under Effects of Alternatives on Viable Populations of Wildlife in the Old Growth and Biodiversity Section, in Chapter 3 (Final EIS). The TPIT clarification also says the Forest Service will work in cooperation with the U.S. Fish and Wildlife Service and Alaska Department of Fish and Game to evaluate the remaining viability strategy if selections are submitted to the Bureau of Land Management (BLM) for conveyance. See Forest Service Response to Clabby 11.

Forest Service Response to Clabby 13:

The small old-growth reserve in the vicinity of Mop Point exceeds the TLMP requirements for productive old growth but is slightly smaller in overall acreage than recommended. A simple solution would have been to expand the boundaries of the small reserve to include an additional hundred acres or so of nonproductive old growth or nonforest to meet the overall size requirement. The old-growth reserve at Mop Point (VCU 7560) has been moved to the vicinity of Units 171 and 172 (south of Gnat Cove) in our Selected Alternative (Alternative 7) for the Final EIS. An interagency group of biologists from the ADFG, the U.S. Fish and Wildlife Service and the Forest Service reached consensus on this new location during a field review on 6/10/98. The group recommended relocating this small old-growth habitat reserve for the following reasons:

1. The habitat appears to be higher quality and in a larger contiguous block.
2. It better maintains connectivity between the medium old-growth reserve to the south and Misty Fiords National Monument.
3. It appears to be the best general wildlife habitat in the Gnat Cove area, including the Carroll Point Medium Old-Growth Habitat Reserve.
4. To preserve future options in case the overselected lands in the medium old-growth reserve are ever selected and harvested.

This process is part of the implementation of the TLMP (1997) as directed in the TLMP ROD (1997). These recommendations are discussed in the Sea Level ROD.

Forest Service Response to Clabby 14:

See the Forest Service Response to Comment to Clabby 12.

Forest Service Response to Clabby 15:

The beach fringe has been harvested in many areas in the Sea Level Project Area and that harvest decreases the functionality of beach fringe as a connecting corridor. This was taken into consideration during the planning of the Project. As a result, additional corridors were identified in the Draft EIS to compensate for young-growth beach fringe. This is shown in the Draft EIS on the map on page 3-78 and discussed on page 3-79. See the Forest Service Response to Comment to Clabby 13.

Fragmentation, due to implementation of the TLMP, has been analyzed. The Sea Level Project is consistent with the TLMP. The TLMP minimizes fragmentation through the old-growth habitat reserve strategy. There will likely be fragmented areas in project areas between these reserves.

Letter #8: Margaret Clabby, page 5

have a good view of the mouth of Carroll Inlet and can see (and hear) the humpbacks and other whales quite well. This year, we observed extensive "courting" and feeding behavior on numerous occasions. The EIS should specify that the Carroll Inlet/George Inlet area is an important feeding area for humpbacks and some other whales. The area is also used frequently by orcas, white-sided dolphins, porpoises, seals, and sea lions.

pg 3-148 states that "the proposed actions are not anticipated to adversely affect, directly, indirectly, or cumulatively, the humpback whale. . . ." It is my belief that the project activities, in combination with development on other forest service and private lands in the area, will affect the water quality and eventually result in decline of humpbacks in the area. (E.g. wetland and riparian impacts due to prior logging have been severe--which has long term effects on water quality.) At minimum, prior to further Sea Level harvest, baseline data should be gathered concerning the presence and behavior of the humpbacks and other marine mammals in the waters adjacent to the project area. Then, annual documentation of whale presence and behavior should take place for the coming decades to determine if whales are being affected. The costs of this type of observational monitoring could be reasonable if a cooperative, volunteer based project was developed (since many of us frequent the area and record whale observations informally anyway---It could just be done more intensively and formally). As with all wildlife and aquatic life, it is not only this action which will have effect, but the cumulative result of F.S., native and other private development over time.

-IV. -pg 3-167 There is an error in Table Wildlife-6 Proposed Acres for Harvest and Percent Change from 1954 in Wildlife Habitats by Alternative. It says that the acreage of beach fringe, estuary fringe, and riparian have not declined at all since 1954, whereas the truth is that some substantial strips of beach fringe and riparian areas been clearcut and others selectively cut (both legally and illegally). This table seems to directly conflict with pg. 3-120 which states that "a significant percentage of the riparian management areas within the project Areas were harvested between 1954 and 1993. Much of this timber harvest occurred in watersheds, such as painted Creek, 10 to 20 years ago, before any significant stream protection measures were implemented. As a result, many Class I and Class II streams that today would receive a stream buffer were harvested up to the bank." If the table is corrected to show the correct number of existing unharvested riparian acres, then this would change the horizontal row of figures for "percent change" for alternatives 2-6. For example, the current chart implies that alt. 2 results in a total 0.9% change since 1954 in riparian wildlife habitat, but this is based on the assumption that no riparian acreage has ever been cut in the project area.

pg 3-167 table says alternative 3 proposes harvest of 60 acres of riparian habitat. Alternative 2 calls for 127 riparian acres to be cut. This is too much riparian habitat, considering that so much of the riparian habitat in the project area has already been cut without good environmental sense.

pg. 3-183 Table Wildlife-14 shows cumulative changes in habitat capability. The reductions from 1954 to 2095 are substantial (ranging from 21 to 37 percent for various species). How can you justify planning to decrease wildlife populations by this much? For example, deer (which is an important food source) will have declined so that the area can support 28% fewer deer. Population will have increased, yet food supplies will have declined due to timber harvests.

Volume II

Appendix A--Reasons for Scheduling Environmental Analysis of the Sea Level Area--S.E. AK Timber Demand pg. A-2 last paragraph states that "there is currently a joint venture between KPC and Sealaska for a

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Forest Service Response to Clabby 16:

We appreciate these observations. The Biological Assessment determined there would be no adverse effects on humpback whales because the TLMP guidelines protecting whales will be followed during implementation of the Sea Level Project.

Forest Service Response to Clabby 17:

Table Wildlife-6 in the Draft EIS has been corrected in the Final EIS.

Forest Service Response to Clabby 18:

Table Wildlife-6 has been corrected for the Final EIS. None of the Alternatives in the Final EIS propose harvesting in the Riparian Management Area with the exception of Unit 133. In this unit, a small portion of an alluvial fan (totaling 26 trees) has been included in the harvest unit, based on a site-specific watershed analysis that indicates there would be no effect on fisheries habitat or water quality. This is the only riparian harvest that will take place in this Project Area.

Forest Service Response to Clabby 19

The habitat capability model used to evaluate deer habitat has been updated and results of this new model have been incorporated into the analysis. This information is displayed in the EIS so the Forest Supervisor may consider it in the decision to be made. These reductions in wildlife habitat capabilities are consistent with TLMP projections, however implementation, viable populations of wildlife will be maintained through the life of the TLMP.

A discussion was added to the Wildlife Section, as suggested, to illustrate the possibility of loss of hunting opportunities as an effect of this Project. However, one must realize that habitat capability does not easily convert to population numbers. Wildlife populations, and therefore hunting opportunities and hunting success, are also dependant on other factors such as weather, fecundity rates, and predation; populations may vary from year to year depending on these factors. This is discussed in Effects on Future Hunting Opportunities, under Environmental Consequences, in the Wildlife Section of Chapter 3 (Final EIS). Additional discussion regarding deer-habitat capability and subsistence uses can be found in the Subsistence section of Chapter 3.

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veneer plant at Ward Cove". This statement is incorrect and should either be removed or changed to "negotiations have taken place regarding a possible joint venture between Sealaska and KPC, but as of July, 98, there is no agreement finalizing this project." (per phone call with Alan Hayes of KPC, July 22, 98). Note that if you are going to keep this statement in here (which is included as part of the justification for this sale relating to timber demand, then you need to include the potential environmental effects of a veneer plant at Ward Cove in your sections on Air Quality and Water Quality. The air effects are likely to be substantial, because, according to KPC personnel (at a meeting with EPA this week) the veneer plant (if it ever happens) would require the use of power boilers again. Ketchikan Pulp Company's power boilers have a long history of distributing large quantities of particulates, sulfur dioxide, dioxins, and other substances throughout the area. Areas inside and outside mill boundaries now have contaminated soils, drinking water cisterns, creek sediments, and marine sediments. Even with modern air control devices on the stacks (e.g. ESPs) the veneer mill power boilers will produce fly ash containing high concentrations of bioaccumulative persistent toxic substances. At this time, KPC employees indicate that this ash would go in its on site landfill which leaches to a pond and then is pumped to Ward Cove. There are numerous problems with KPCs ash and woodwaste landfills which are causing problems due to leachate from the landfill accidentally flowing to streams, Refuge Cove, Ward Cove, and Tongass Narrows. You really need to make a choice. Either delete the reference to the Veneer plant because it is purely speculative at this time (and modify your figures on market demand). Or fully portray the true potential environmental consequences of selling Sea Level project area timber to this buyer. The forest service was tremendously negligent over the past decades in continuing to honor the KPC contract even though they were in constant violation of environmental regulations and permits. The result is a highly polluted cove requiring a multimillion dollar cleanup and which is essentially undevelopable for other users due to the current pollution. Area residential, commercial, industrial and recreational areas are now contaminated with dioxins at levels hundreds of times above areas away from the mill. (EPA 98, KPC 98) In this current EIS, the F.S. has the responsibility to portray reasonable potential environmental consequences of this action. If there is a potential for selling this timber to a veneer mill at Ward Cove, then you better go look at the RIFS for the uplands and the Ward Cove Sediment Remediation Plan Draft Technical Studies Report and the Superfund Investigation Team's Final Investigation Report (ap. 98 to get an idea of the existing condition of this site and therefore the potential cumulative harm from adding to the pollution in the area.

pg A-2 last sentence says that the veneer plant could be on line as soon as spring of 99 with a capacity of 150 million bd ft annually. This statement should be clarified to indicate that the eventual veneer wood volume need is estimated at 50mbf.

pg A-3 top paragraph Under existing S.E. Alaska mills, why is there no mention of the closest mill to the Sea Level Project--the Herring Bay Lumber mill? According to DNR, the Herring Bay mill has been unable to get reasonable quality national forest timber; consequently, the state has been secretly negotiating sales along George Inlet which are highly controversial due to local recreational, tourism, and cultural uses. Specifically, this spring, without public notice and after concerned residents had been told that timber in this area would not be cut without public involvement, a road was put into a pristine area and just under 10 acres of old growth (primarily cedar) was clearcut. One other state sale was sold to Herring Bay and a second private sale was negotiated. This was done supposedly because national forest cedar was not available (even though the F.S. allowed over 10 million bd ft. of cedar to be exported in the round from the Ketchikan area last year.) Herring Bay Lumber is just a couple miles from the project area. This EIS should specifically address the importance of providing for small local sawmills so that

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they don't have to get their timber from state lands which are highly used for other purposes. It is ridiculous that the f.s. allows round log export of cedar when there is a mill which can process cedar. The logs virtually have to pass by on their way to export (i.e. Herring Bay Lumber is across from the mouth of Carroll Inlet). If, in 1997, the forest service had required that just 1% of the cedar that was exported in the round from the Ketchikan area be instead sent to Herring Bay Lumber, then the Redbone sale (a "cedar" sale) would not have had to take place at mile 9.5 S. Tongass. This clearcut (of trees older than 200 years) cuts to the banks on 2 streams, is visible from Carroll Inlet and Thorne Arm and now is becoming a garbage pit of old carpet, beer cans, shotgun shells, and condoms. You allow cedar from public lands to be exported unprocessed (giving few local jobs), thus requiring true local mills to find wood elsewhere. Please allow NO round log export from this sale. Either the wood should go to local mills for processing (i.e. jobs) or the wood should not be harvested until market demands are such that local processing becomes more financially sustainable.

Clabby
#21

A related local concern is the manner in which logs are moved. All wood should be barged rather than placed in salt water and towed. One reason for this is that the salty wood creates a woodwaste disposal problem. When salty wood is burned at the temperatures used by wood processing facilities, dioxins are formed and then distributed to the air in high quantities. Most woodburners at mills in S.E. are totally unmonitored by the state because they call them "open burning". Some of these burners distribute ash and pollutants into people's yards, through their windows into homes, etc. For larger facilities (e.g. if KPC really does start up the veneer mill) their intent is to operate multifuel powerboilers (woodwaste and oil) which either produces extremely large quantities of hazardous air pollutants (including dioxins) or, if the air emissions are controlled (by ESPs, for example) then the collected ash becomes a serious disposal problem due to the bioaccumulative, persistent pollutants in the ash which then leach out and run into streams, groundwater, and marine waters. A review of KPC's 13 acre landfill (where they have been disposing of ash, woodwaste, sludges, contaminated materials, etc. since 1988) shows that at least 3 streams downgradient from the landfill now contain toxic pollutants far in excess of local stream background levels for these substances (e.g. dioxins/furans at over a hundred times background). KPC has applied for a permit to discharge leachate from their Ward Cove landfills to Ward Cove and this permit request is currently undergoing EPA and state review. KPC is using 2 million gallons a day of Connell Lake water to dilute the hazardous substances in the landfill leachate prior to their discharge to Ward Cove, but even after this tremendous dilution, they are still unable to meet water quality standards and are asking to be able to have part of Ward Cove waters as a mixing zone for pollutants (an area where pollutant concentrations exceed safe levels for aquatic life and human health). So--here's the situation. The forest service will sell trees to KPC. They'll drop them in salt water. The woodwaste from this salt-laden wood will create air contaminants and highly contaminated ash. The ash will be disposed of in a manner which creates leachate of serious contaminants (dioxins, mercury, cadmium, chromium, whole effluent toxicity, extremely dark color, etc.) and these contaminants will cause waters of the state to be toxic to aquatic life. It is time for the f.s. to acknowledge the true environmental impacts of their timber sales (including predicted air and water quality problems and violations at timber processing facilities). The f.s. has a responsibility to prevent pollution to the extent practicable. Requiring the end to salt water log movement and storage would be a positive pollution prevention step, resulting in better water and sediment quality at log transfer and storage facilities as well as adequate air, water, and sediment quality at local timber processing facilities.

Clabby
#22

Appendix pg A-4 indicates that current planning will result in impact to all subsistence use areas in the Ketchikan area. The greatest

Clabby
#23

Forest Service Response to Clabby 20:

Appendix A has been updated to reflect the current situation regarding the proposed veneer plant. It will be the responsibility of the permittee and the permit administrators to ensure that water and air-quality standards are met if these new undertakings come to fruition. See the Forest Service Response to Clabby 7 and SEACC 9.

Forest Service Response to Clabby 21:

The referenced section of Appendix A was an illustration of a timber industry in transition, with old mills being purchased, reopened, or upgraded, or new mills opening that had not been taken into account by the Brooks and Haynes report. Herring Bay Lumber mill is not specifically mentioned in Appendix A, but then neither are the sawmills in Metlakatla, all may potentially benefit from timber harvested from the Sea Level Project. The Sea Level Project is planned to be sold in six separate sale ranging from 2.6 MMBF to 13 MMBF. The Alaska Region's export policy ensures that local timber purchasers have an opportunity to purchase redeedar logs in the round before an export permit is issued. An applicant for a redeedar export permit must first prove there is no local market. Yellow cedar is exported under the authority of the Regional Forester. There is no export of hemlock or spruce in the round. See the Forest Service Response to SEACC 9 and TCS 1.

Forest Service Response to Clabby 22:

Conversion of our current LTFs, to, barge LTFs was not considered in detail. See the Forest Service Response to Clabby 7.

Forest Service Response to Clabby 23:

The Subsistence section in the Draft EIS and the Final EIS contains a discussion of harvest data and a comparison to habitat capabilities. The Subsistence section points out that as demand increases for huntable wildlife, and habitat decreases, at some point demand could exceed supply. However, it is difficult to predict when this will occur. This led to a finding based on projected future demand that there will not be a significant possibility of a significant restriction on subsistence use of deer, bear, marten and wolves.

An analysis has been added in the Wildlife section in the Final EIS to show effects of this Project after the units reach the canopy-closure stage. This is shown in the Final EIS as the effects on habitat capability at year 2045.

See the Forest Service Response to Clabby 19.

Letter #8: Margaret Clabby, page 8

impact will occur 20-30 years after harvest when the second growth canopy closes. This impact is unacceptable.

Unit Data Card-- Unit 56 This unit borders Misty Fiords National Monument and yet under "Recreation/Visuals" there is "no concern". This is just one example of an underestimation of the effects on Misty Fiords that this sale will have. Roads are planned right up to the border of Misty Fiords. Units are scheduled for cutting which severely infringe on movement of wildlife between Misty Fiords and other areas.

pg. 3-220 lists some of the impacts along the Misty Fiords boundary (i.e. helicopter noise, road construction in units 45, 45, 56, and 59 east of Shoal Cove which will increase access into Third Lake and

The poor tread lightest on the earth. The higher our income, the more resources we control

and the more havoc we wreak.

Paul Harrison (b. 1936), U.S. playwright, director. Guardian (London, 1 May 1992).

Clabby
#23

Clabby
#24

Clabby
#25

Forest Service Response to Clabby 24:

Harvest Unit 56, proposed in all alternatives, is located within the Timber Production LUD immediately adjacent to the Misty Fiords border. This boundary is formed by a prominent ridge that separates these two separate drainages. The Visual Quality Objective (VQO) for the Timber Production area is Maximum Modification which allows for maximum commodity producing activities while meeting the TLMP standards and guidelines. By definition, Wilderness boundaries include their own buffers, that is, the buffers have already been configured into the existing placement of the Wilderness border. In this case, the prominent ridge mentioned above visibly separates management activities in the timber production areas from the noncommodity producing areas of Misty Fiords. See also the Forest Service response to ADFG 8, ADFG 9, ADFG 10, and ADFG 11.

Forest Service Response to Clabby 25:

It appears most of your comment was somehow left out of your sentence, but it seems you are concerned about possible noise from helicopter logging operations and potential increased access to Third Lake, 1 mile distant within the Misty Fiords National Monument. There may be some noise audible from logging operations, but these effects would be of a very short duration. As for increased access due to possible road construction accessing four potential timber harvest units, there are currently three existing roads that access to within several hundred feet of the Misty Fiords National Monument and Wilderness boundary. This Project has the potential to enhance hiking access to the Misty Fiords National Monument and Wilderness. The effects of improved access are discussed in the Final EIS. Please refer to the Recreation Resource section in Chapter 3, for this information.

G Appendix

Letter #9: Richard Myren, page one

Comments on DEIS, Volume I

pgs 3-16-17 Water Quality Stream temperature and dissolved oxygen relationship addressed or referred to in six of the seven paragraphs does not address the ecological problem the paragraphs are purporting to address. (Paragraph on Kam Creek is an exception for a specific case The errors occur in paragraph three in which the role of streamflow, specifically baseflow is not recognized This error is common to Forest Service EIS's. A better description (see attachment # 1) has been

RM
#1

written for Control Creek. Furthermore, the Murphy 1985 paper on fish kills should have been cited.

RM
#1

Pg. 3-18 Lloyd et al., 1987 is not listed in the bibliography. I called him by telephone (ADF&G, Kodiak--I don't have his paper). He told me his paper did not address whether there were statistically significant changes in sediment values before and after logging. Your reference to Paustain as the author is unfortunate. The Paustain paper is bogus. (Enclosure #2). Paustain appears in pages 3-18, 3-24 and 3-25. How can you expect any credibility when you cite fecal matter like this.

RM
#2

Pg 3-23, last paragraph. The Meehan et al (1969) reference is worthless as applying to anything that goes on in a watershed. The Forest Service should have a considerable amount of filed criticism about Meehan on this 25% issue and the weakness of the observations and conclusions that they based their statements. I have written extensively demonstrating in particular his statistical analysis of suspended sediment is not technically sound. These comments of mine about the Meehan et al analysis of suspended sediment have appeared in response to many draft EIS documents, have been appended it to other various responses. That paper should be such an embarrassment to the Forest Service. It demonstrates a general ignorance of the subject and that the Forest Service would want to hide rather than broadcast it. It certainly does not improve the credibility of the current EIS document discussed here nor shed a good light upon those who have prepared the document. (I would suggest if the Forest Service is serious in environmental analysis other than providing a justification for logging that it collect these common criticism in often cited papers such as Meehan et al., and analyze it for merit) For the innocents who get sucked in you can blame former Forest Service people

RM
#3

Upon recognizing the problem the Forest Service should issue instructions to all analyzers of EIS of citations of subjects of which the analysis therein are not factually correct, are not supported by the data or the data was shown to be competently collected.

Pg. 3-25, paragraph 5. Paustain (1987) paper is a fraud. See enclosure #2.

Pg. 3-25, 4th paragraph. These numbers you cite from Paustain only deepens your delusion you are addressing the real world and what his study showed in fact, not what he concluded about it, but what the raw data he published shows.

RM
#4

Pg. 3-26. I have difficulty in believing the sediment risk assessments are a competent work which will make a difference on the protection of fish habitat when the back ground material referred to on pages 3-18 through pages 25 appears, because of the defects I have found in the work cited on these pages. How can one believe the Forest Service assessments of risk enumerated on pages 3-28 through 3-30 are valid with such obvious mal-information preceding it?

RM
#5

Endnote

Endnote 1 is with text.

Forest Service Response to RM 1:

The Sea Level Project implements the TLMP Riparian Standard and Guideline management direction. The standard and guideline management direction includes commercial timber-harvest controls which reduce the potential for increased sediment load, increased temperature, and increased aggradation of stream channels. The TLMP standards and guidelines fully implement the Anadromous Fish Habitat Assessment recommendations (TLMP ROD, page 29).

Forest Service Response to RM 2:

The citation was added to the Bibliography. See the Forest Service Response to SEACC 21.

Forest Service Response to RM 3:

The Forest Service, and the scientific community accepts Mechan et. al. as credible scientific work at Maybeso Creek.

Forest Service Response to RM 4:

Paustian did mention what researchers today are saying about measurement certainty. The net result is that these fluctuations [of results] are largely unpredictable, and one either has to capture this variability through intensive sampling or accept the fact that a single sample has a very high degree of uncertainty with regard to its representativeness of the mean transport rate (Bunte and MacDonald 1998). The Forestry Sciences Lab (FSL) conducts channel condition assessments to detect changes in channel morphology of managed streams to compare with unmanaged streams to help reduce the variability. Painted Creek watershed (E76A) represents one managed system of that study. The FSL plans to continue this intensive monitoring effort over a long period of time, 10 years or more, before they draw any conclusions. Application of TLMP standards and guidelines and Best Management Practices will mitigate any increased sediment bedload during road construction.

Forest Service Response to RM 5:

See Forest Service Response to ADEC 4.

G Appendix

Letter #9: Richard Myren, page two

2.Sheridan, W.L., Perenovich, M.P., Faris, T., and K.Koski. 1984. Sediment content of streambed gravels in some pink salmon spawning streams in Alaska. Pages 153-165. in Meehan, Merrell, Hanley (eds) Proc. Symposium on Fish and Wildlife Relationships and Old-growth Forests. Juneau. AK, 12-15 April 1982. Am. Inst. Fish. Res. Biol., Juneau Ak. p. 158.

These data were published in the symposium without adequate editing. The analysis of variance reported on page 161 of data in Figure 2 and Table 3 was not tested for homogeneity of variance. The absence of homogeneity of means is seen in the second figure with high variance for the unlogged sample compared to the logged sample. The two junior authors of the paper I have a high regard for. They are not statisticians. It is not usual for junior authors to question the senior authors abilities in conducting a very elementary statistical test though the error should have been visible in noting the higher variance in table 3 of their paper. If one see's Meehan's name the senior editor of the proceedings on a publication, run. I can't help in believing that Sheridan is now laughing at us mere mortals, where ever he is. When he was alive and attended the local AIFRB meeting (a fishery science group) when we would be critical of his work at the Forest Service, he would reply with a twinkle in his eye, "Well the Forest Service hired me to prove logging doesn't affect the fish resource." We would say, "sure Bill" believing he was just kidding.

RM
#6

There are still people "proving " that logging does not affect fish resources in the sense that the massive EIS document constitutes a kind of proof that the resource is being protected. I suspect all this noise as well as action about sediment risk analysis is a derivative of the same old pattern with new trappings, giving a little, now kind of a fancy rear guard action, stalling off the critics , buying time, until the next Congressional go-around when their sins become to much to be ignored by the establishment.

Note: To the author's knowledge, the post-1964 observations of sediment for Hollis streams have not been published

Sincerely,

Richard T. Myren

3320 Fritz Cove Road

Forest Service Response to RM 6:

The TLMP Riparian standard and guidelines will be applied in all watersheds on the Project Area, and are sufficient to maintain and protect fish habitat and provide for sport and commercial fisheries and subsistence. The TLMP standards and guidelines fully implement the Anadromous Fish Habitat Assessment recommendations (TLMP ROD, page 29). No reductions to RMA buffers are proposed except in Unit 133 of Sea Level Creek E79A03. A site-specific watershed analysis for Sea Level Creek, which meets the requirements set forth by Appendix J of the TLMP, can be found in the Sea Level planning record. See the Forest Service Response to ADFG 6.

Letter #10: Wilderness Society



THE WILDERNESS SOCIETY

Forest Supervisor
Tongass NF-Ketchikan Area
Attn: Sea Level Draft EIS
Federal Building
Ketchikan, AK 99901

fax: 907-228-6215 or 228-6292.

August 7, 1998

Dear Forest Supervisor:

Pursuant to 36 C.F.R. sec. 215.11(a)(2), I am hereby notifying you that my organization is interested in the Sea Level Timber Sale project.

WS #1

Thank you very much for your consideration.

Sincerely,

- Nicole Whittington-Evans

Nicole Whittington-Evans
Assistant Regional Director

Forest Service Response to WS 1:

Your interest in the Sea Level Timber Sale Project is noted.

Letter #11: Alaska Center for the Environment



ALASKA CENTER *for the* ENVIRONMENT

519 West 8th Avenue, Suite 201 • Anchorage, Alaska 99501
(907) 274-3621 • fax: 274-8733 • e-mail: akcenter@alaska.net

5 August 1998

Forest Supervisor
Tongass NF-Ketchikan Area
Attn: Sea Level Draft EIS
Federal Building
Ketchikan, AK 99901

Fax: 907-228-6215

To Whom It May Concern,

Pursuant to 36 C.F.R. sec. 215.11(a)(2), I am hereby notifying you that Alaska Center for the Environment is interested in the Sea Level Timber Sale project.

ACE
#1

Sincerely,

A handwritten signature in black ink, appearing to read 'Karen L. Button', with a long horizontal line extending to the right.

Karen L. Button
Forest Issues Director

Forest Service Response to ACE 1:

Your interest in the Sea Level Timber Sale Project is noted.

Letter #12: Tongass Conservation Society, page one

**Tongass Conservation Society**

PO Box 23377 Ketchikan, AK 99901

FOREST SUPERVISOR OFFICE	
ROUTE	INT.
22	FS
(907) 225-5827	
FS SECRETARY	
ADMIN	
ECO	
ENG	
PAO	
PLANNING/IRM	
REC & LANDS	
TIMBER	
CRAIG RD	
1	KETCHIKAN RD
	MISTY FIORDS NM
	THORNE BAY RD
	OTHER

6 August 1998

Bradley E. Powell, Forest Supervisor
 Tongass NF - Ketchikan Area
 Attn: Sea Level Draft EIS
 Federal Building
 Ketchikan, AK 99901

Dear Mr. Powell,

I am writing on behalf of the Tongass Conservation Society concerning the Sea Level timber sale. The Tongass Conservation Society is a non-profit environmental organization. There are a few issues that I would like to address that may have been overlooked or not even considered when compiling the Draft EIS for the Sea Level project area.

1) **Supply and demand has become an issue of debate when it comes down to how much timber is needed and who are the companies demanding timber. The role of foreign economies needs to be addressed as well and where their demand comes into play.**

- The first issue I would like to review is the supply and demand issue in Southeast Alaska. The closing of the KPC mill cut down demand considerably. There was talk of a veneer plant opening soon although there has not been any word since March of the venture being pursued.
- Also the Asian economy has been in serious turmoil for the last six months and there does not appear to be a quick end to their economic troubles.

These factors have a large impact on the amount of timber that is demanded on an annual basis. I guess a better way to say it is show me numbers of projected board feet and the companies in need of a supply to back up this so called large demand for timber. The lack of data and the fall of the Asian economy are not supporting the claims of a high demand for timber.

2) **The issue of the Bradfield Road Transportation Link and additional road building should be addressed.**

- This issue should be addressed in the Sea Level timber sale because it will have a direct impact on the wildlife in the area. Failure to address the road building issues will only contribute to the adverse long-term effects of habitat loss, fragmentation, and degradation the roads would place on the area. And in the case of the Bradfield

TCS
#1TCS
#2

Letter #12: Tongass Conservation Society, page two

Road Transportation Link, if it were not a foreseeable action then why was it even mentioned in the first place?

- Road construction linking Ketchikan to the Sea Level area would increase hunting opportunities. This would put pressure on wildlife populations that will already be facing extensive impacts due to habitat fragmentation and old growth habitat loss from the proposed timber sale. The increase in the number of hunters will put pressures on wildlife populations which will affect supply for subsistence users in the area. The lack of consideration of subsistence users is appalling and exhibits a disregard for people who have chosen the true Alaskan way of life.
- Also the data used for projecting Metlakatla, Saxman, and Wrangell is out of date (Draft EIS Vol. II, pg. B-2 - B-11).

The long-term effects road construction may have on wildlife as well as the effects it will have on subsistence users needs to be addressed in detail.

3) **Unit pools contribute to fragmentation and destruction of old growth habitat. Sizes of corridors and patch sizes of old growth habitat reserves needs to be reevaluated.**

- I discovered a third concern when looking at the proposed unit pools. The Sea Level area was cut in 1954 at which time it lost 50% of its old growth. Now only 44 years later we want to go in and cut half of the remaining 50%. This will only increase fragmentation and habitat loss according to graphs on page 3-83 in Volume I of the Draft EIS. This is an apparent lack of consideration of long-term effects the ecosystem has already faced by the loss of old growth since 1954. Where is the consideration of ecosystem integrity in this rationale?
- Old growth patch sizes are not large enough to support the diversity of wildlife that is already in place.
- There is also an insufficient amount of corridors for wildlife to travel according to the map on page 3-78 in Volume I of the Draft EIS. There are huge gaps between the old growth reserves and small strips that are suppose to be corridors. The wildlife are not only going to face a loss of habitat, they will not have an effective way to travel to what is going to be left.

Sufficient corridors for wildlife travel need to be put into place so that they are able to travel among the remaining old growth reserves. If we are going to cut timber we must begin to compensate at some point for the areas that are being taken away from wildlife. Population numbers for larger range species like black bear and the Alexander Archipelago wolves will feel the habitat crunch.

4) **Barge transporting should be the option for all LTFs to keep bark accumulation to a minimum. Start considering long-term effects of wood waste.**

- The last issue I would like to address is that of the LTFs in the area. I did take the time to research data that was available from Craig's Dive Center. Shelter Cove and Shoal Cove have experienced bark accumulation surrounding existing LTFs. Elf Point bark deposition has not been as great. It appears that the marine community is at a sustainable point, (Shoal Cove being an exception), at this time. My only concern is that with increased use of the LTFs it will only deposit more bark, leaving the marine organisms incapable of dealing with the immediate change in their environment. A decrease in BOD will certainly affect the aquatic organisms.

TCS #2

TCS #3

TCS #4

TCS #5

TCS #6

TCS #7

Letter #12: Tongass Conservation Society, page three

- I would like to raise possibility of using barges at all of the three LTFs (not just Elf Point) to keep bark accumulation to a minimum if timbering does occur.
- It decreases the quality of wood when it has been exposed to salt water. Using barges will maintain the value of the saw logs.
- The objective should be to keep wood waste to a minimum. We need to consider effects beyond the cutting of timber. This includes the disposal or mainly the burning of wood waste. There has been no adequate means of disposing wood waste so burning has become the popular alternative. Burning wood waste releases dioxins and carbon dioxide that create adverse environmental conditions which have become all too familiar in our society. Less wood waste = less burning.

Barge transporting would keep bark accumulation to a minimum and reduce wood waste. These practices would keep long-term adverse environmental effects at a low.

Economic development and prosperity is important to all of us but consideration for the resources that we do have left must be taken seriously. Long-term thinking must replace our short-term fixes for immediate return or only future generations will suffer from our greed. I thank you for the time and consideration you have put into reading my comments.

TCS
#7

Sincerely,

Kathryn M. Foxworthy

Kathryn M. Foxworthy
Tongass Conservation Society

G Appendix

Forest Service Response to TCS 1:

Appendix A has been updated. Timber demand in Southeast Alaska can vary dramatically from year to year. The level of demand is dependent on complex interactions among factors that are difficult, if not impossible, for the industry or the Forest Service to predict with accuracy. Such factors include: fluctuations in interest rates, housing starts, business cycles in the United States and overseas, changes in the value of the dollar with respect to foreign currencies, changes in import tariffs, and changes in export policies in other countries.

The multi-year timber-sale planning process generally requires managers to manage four different groups, or “pools”, of timber volume. Included are:

1. **Timber Volume in Preparation**
This pool of timber contains sales being analyzed and undergoing public comment through the National Environmental Policy Act (NEPA) process. This process can often take from 1 to 4 years and ends when a NEPA decision is made, usually issued in the form of a Decision Notice or Record of Decision.
2. **Timber Volume in Appeals or Litigation**
This pool of timber volume contains sales on which action is stayed or deferred as a result of the administrative appeals process or litigation. As a result, it is not yet available to the program managers for sale. This process can take as little as 60 days, if no appeals are filed, or up to 4 years if litigated.
3. **Timber Volume Available for Sale**
This pool of timber volume contains sales for which environmental analysis has been completed, administrative appeals and litigation (if any) have been resolved, and is available for managers to schedule for sale offerings. Managers need to maintain enough volume in this pool to be able to schedule future sale offerings in an orderly manner, and to be able to schedule such offerings in the size and configuration which best meets the needs of the public. As a matter of policy and sound business practice, the Forest Service attempts to announce probable, future, sale offerings at least 1 year in advance. This allows potential purchasers an opportunity to do their own evaluations of these offerings in order to determine whether to bid on them, and if so, how much to offer.
4. **Timber Volume Under Contract**
The pool of timber volume contains sales which have been sold (and a contract issued to a purchaser) but which have not yet been harvested. Timber contracts typically, but not always, give the purchaser 3 years to harvest and remove the timber purchased. Long standing Forest Service practice is to attempt to maintain about 2 to 3 years of unharvested timber volume under contract to timber purchasers. This practice is not limited to the Alaska Region, but is particularly pertinent to Alaska because of the nature of the land base here. The relative absence of roads, the island geography, the steep terrain, and the consequent isolation of much of the timber land means that timber purchasers need longer-than-average lead times to plan operations, stage equipment, set up camps, and construct roads prior to beginning harvest.

To be responsive to market demand, the Forest Service attempts to provide an opportunity for the industry as a whole to accumulate a supply of purchased but unharvested timber (i.e. volume under contract) equal to about 3 years of timber consumption. There are a number of reasons for allowing the accumulation of volume under contract. First, this allows the industry ample time to plan an orderly and systematic harvest schedule that meets all timing restrictions and permit requirements. Second, it allows the industry to better manage its financial resources and to secure financing on the basis of longer-term timber supply. Third, it allows time for the necessary infrastructure (roads, log-transfer facilities, and logging camps) to be put in place prior to timber harvest. Fourth, it gives the Forest Service time to develop an orderly progression of timber management projects in various stages of the planning process. Finally, an ample timber supply gives the industry more opportunity to sustain itself through market cycles. If demand for pulp or lumber in any year suddenly increases, producers will have access to enough timber to respond to the increase in demand, without waiting for the Forest Service or the Congress to take action.

Forest Service Response to TCS 1, continued:

The market demand analysis in the TLMP was based on a study by David Brooks and Richard Haynes, research scientists at the Pacific Northwest Research Station. Following the release of the TLMP, a final version of the Brooks and Haynes report was published. It is this final report that is referenced and cited throughout this Appendix. Three scenarios (low, medium, and high) were developed in the study to display the demand for Tongass National Forest timber through the year 2010 (Brooks and Haynes 1997). For the low scenario, high timber-selling values, harvest costs and manufacturing costs limit Alaska's share of markets. Under the high scenario, increased harvest and manufacturing efficiency, with resulting lower costs, make Alaskan mills more competitive. Projected annual timber demand for the next decade is 113 MMBF for the low scenario, 133 MMBF for the medium, and 156 MMBF for the high scenario. These three scenarios do not consider the Seley mill that is operating on Gravina Island, the proposed veneer plant, or the reopening of the Alaska Pulp Company sawmill in Wrangell. Nor do they account for shifting markets in Japan and the recent willingness of the Japanese to purchase Alaskan milled lumber, manufactured wood products, laminates, etc. All of these factors would lead to an increase in demand over the totals listed for the three scenarios.

Forest Service Response to TCS 2:

With respect to the Ketchikan-Bradfield road, this cannot be considered a connected action, nor reasonably foreseeable in the NEPA sense. The Sea Level Final EIS specifically discusses this road. The construction of a road link is a long-range action that is not reasonably foreseeable, is not connected to the Sea Level Project, and is outside the scope of this Project planning effort.

Forest Service Response to TCS 3:

The construction of a road link between Ketchikan and the Shelter Cove area of the Sea Level Project Area is discussed and potential effects documented throughout the Sea Level Final EIS. The Subsistence section in the Draft EIS and the Final EIS contains a discussion of harvest data and a comparison to habitat capabilities. The Subsistence section points out that as demand increases for huntable wildlife, and habitat decreases, at some point demand may exceed supply. However, it is difficult to predict when this will occur. Habitat capability is sufficient to sustain projected future subsistence demands through the year 2045. This led to a finding, based on projected future demand, that there will not be a significant possibility of a significant restriction on subsistence use of deer, bear, marten and wolves.

A discussion was added to the Wildlife section, as suggested, to illustrate the possibility of loss of hunting opportunities as an effect of this Project. However, one must realize that habitat capability does not easily convert to population numbers. Wildlife populations, and therefore hunting opportunities and hunting success, are also dependant on other factors such as weather, fecundity rates, and predation; and populations may vary from year to year depending on these factors. This is discussed in Effects on Future Hunting Opportunities, Environmental Consequences in the Wildlife Section in Chapter Three (Final EIS).

Forest Service Response to TCS 4:

The Tongass Resource Use Cooperative Survey (TRUCS) data is old (1988) but it is the best information we have on subsistence-use areas. This information is supplemented by ADF&G harvest data, and public comment generated from: scoping, subsistence hearings, and in response to the Draft EIS, as well as in many meetings with individuals.

Forest Service Response to TCS 5:

The effects of roads are discussed for several of the species in the Wildlife section, where roads are a concern. Direct effects take into account existing road use, which is low compared to other areas more easily accessed by vehicles. Cumulative effects analysis takes into account the potential for increased road use through road connections and population increase. This takes into account normal road use, as if easily accessed.

Effects of roads on subsistence are discussed in the Subsistence section of Chapter 3. Specifically, the Alaska National Interest Lands Conservation Act (ANILCA) 810 findings discuss effects of roads in relation to access to, and competition for, subsistence resources.

Forest Service Response to TCS 6:

Fragmentation must be looked at on a larger scale than a project area. Fragmentation from implementation of the TLMP has been analyzed. The TLMP old-growth conservation strategy has two basic components. The first component is the forest-wide reserve network which fully protects 70 percent of the 5,060,000 acres of productive old-growth forest. The second component of this strategy is the management of lands with LUD allocations where commercial timber harvest may occur. Within these areas, components the old-growth ecosystem are maintained by standards and guidelines designed to protect important areas and provide old-growth-forest habitat connectivity. Some of these components include beach fringe and estuary buffers, riparian buffers, areas not available for harvest based on steepness of slopes, high-hazard soils, karst terrain, sensitive travel routes, and timber stands not feasible to harvest (TLMP ROD, page 32). The Sea Level Project implements this approach and is consistent with the TLMP.

Viable wildlife populations are maintained using the TLMP Viable Population Strategy which includes old-growth reserves and connecting corridors. An interagency group of biologists from the ADF&G, the U.S. Fish and Wildlife Service and the Forest Service reached consensus on this new location during a field review on 6/10/98. This process is part of the implementation of the TLMP (1997) as directed in the TLMP ROD (1997). These recommendations are incorporated in the Selected Alternative.

TLMP standards and guidelines for maintaining connectivity between old-growth habitat reserves have been incorporated into the Selected Alternative (Alternative 7). See also the Forest Service Response to Comment FWS 2 for further discussion. Harvest is excluded from or avoids important high-value habitat areas such as beach fringe areas (1,000-foot beach fringe buffers have been implemented), areas around identified eagle nests (330-foot buffers), riparian floodplains, estuary buffers (1000-foot buffers), etc. These issues, within the broader issue of high-value habitat areas, were part of the formulation of all alternatives and were tracked through the Final EIS for analysis of possible impacts.

The beach fringe has been harvested in many areas in the Sea Level Project Area and these areas decrease the functionality of beach fringe as a connecting corridor. This was taken into consideration during the planning of the Sea Level Project. As a result, additional corridors were identified in the Draft EIS to compensate for young-growth beach fringe. This is shown in the Draft EIS on the map on page 3-78 and discussed on page 3-79.

After an interagency visit to the Project Area with biologists from the ADF&G, the U.S. Fish and Wildlife Service, and the Forest Service, the corridor between Gnat Cove and Thorne Arm was redesigned for the Selected Alternative in the Final EIS. It was relocated through Units 173 and 174. It would then connect to the newly relocated small old-growth habitat reserve in VCU 7560 (see the Forest Service Response to Comment ADFG 8). This would better maintain connectivity as the area contains higher value habitat than the previous location identified in the Draft EIS.

Chapter 1 of the Final EIS shows the percentages of land-use allocations within the Sea Level Project Area. Twenty-five percent of the Project Area is allocated to nondevelopment LUDs including Old-Growth Habitat, Semi-Remote Recreation, and Wild and Scenic Rivers.

Forest Service Response to TCS 7:

The LTF monitoring dive reports will be included in the planning record and summarized in the Final EIS.

The LTFs to be used for this Project, Shelter Cove, Shoal Cove and Elf Point, are existing permitted sites. They meet all current standards from the U.S. Army Corps of engineers and the NPDES/EPA which are required for permitting. If and when the EPA General Permit for Log Transfer Facilities in Alaska is finalized, the LTF's will be brought into compliance with the new standards. Modification of the sites that are not currently barge sites would require additional costs and impacts to the environment. Barge sites require a minimum of 25 feet of water at low tide for barge operations (See Draft EIS pg. 3-198). A nonbarge facility for this Project would require extensive embankment fills in order to obtain the depths for barge operations thus affecting additional marine environment. With regard to burning of wood waste, the wood processing facilities are responsible for meeting air-quality standards established by EPA and the ADEC.

Letter #13: Alaska Forest Association, page one**Alaska Forest Association, Inc.**

August 14, 1998

Mr. Bradley Powell
Tongass Forest Supervisor
Tongass National Forest
Federal Building
Ketchikan, AK 99901

VIA HAND DELIVERY**Re: Sea Level Timber Sale DEIS**

Dear Mr. Powell:

Brz&

The Alaska Forest Association (AFA) has reviewed the May 5, 1998, Draft Environmental Impact Statement (DEIS) for the Sea Level Timber Sale project, Tongass National Forest. AFA represents approximately 100 regular and 200 associate member companies doing business in the forest products industry throughout Alaska. AFA, its members, their employees and the timber dependent communities of Southeast Alaska depend on the Forest Service to provide economic timber sales of sufficient volume to meet the needs of the Southeast Alaska timber industry.

As a general matter, AFA believes that before the Forest Service can stabilize its timber sale program and meet the needs of the timber industry in Southeast Alaska, it needs to re-evaluate its timber demand analysis. The interpretation of market demand contained in *Timber Products Outputs and Timber Harvests in Alaska: projections for 1997-2010*, by David Brooks and Richard Haynes is leading to insufficient and uneconomic timber sales, creating a program which is at cross purposes with the agency's often stated goal of encouraging the growth of a reconfigured timber industry in Region 10.

Sea Level sales are needed to provide pipeline volume for Alaska's timber industry

1. Sea Level volume is an important part of the sales program proposed by the Forest Service to address the needs of the timber industry in Alaska and satisfy the requirements of §101 of TTRA. The FS, in TLMP and in the Sea Level DEIS, relied on the 1997 Brooks & Haynes report (See Sea Level DEIS, A-3). AFA believes the Brooks & Haynes report to be deficient in its analysis of the present and future demand for Tongass Timber. The Sea Level DEIS acknowledges the Brooks & Haynes report's failure to include new and revitalized manufacturing plants in Southeast Alaska, and recognizes the fact that demand will be increased by those changes.



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USDA FOREST SERVICE KETCHIKAN AREA RECEIVED	AUG 14 1998	FOREST SUPERVISOR OFFICE															
		ROUTE	FS	DFS	FS SECRETARY	ADMIN	ECO	ENG	PAO	PLANNING/ISA	REC & LANDS	TIMBER	CRAIG RD	KETCHIKAN RD	MISTY FIELDS INV	THORNE BAY RD	OTHER

G Appendix

Letter #13: Alaska Forest Association, page two

2. On the other hand, the DEIS also acknowledges that "an annual sale level of 200 MMBF or less is more likely to be offered over the next few years . . ." The Forest Service must do all it can to maintain the maximum amount of timber to be made available from each proposed timber sale project. Potential falldown must be held to a minimum in choosing the selected alternative. For this reason, AFA urges the Forest Service to select Alternative 2, which would provide nearly twice as much timber than Alternative 3, the Preferred Alternative in the DEIS. Optionally, the Forest Service should consider adding some units from Alternative 2 back into the pool available under the Preferred Alternative to increase the available volume cleared through NEPA by this project. AFA
#1
3. The Sea Level DEIS acknowledges the importance of the 3-year pipeline of timber under contract for the maintenance of a healthy timber industry. Of particular importance is the need to allow the pipeline to build up during times "when markets are poor and production declines" (DEIS, A-2). Volume under the Sea Level project released in the next year or two could be critically important to the industry for this reason. AFA
#2

Issues of particular concern to AFA

1. The Sea Level DEIS applies TLMP Standards and Guidelines, particularly the marten standards, in ways that unnecessarily limit available volume and harm the economics of many units. AFA maintains its objections to the marten standards due to the illegal manner in which they were introduced at the time of the TLMP ROD. Nonetheless, AFA is also concerned about the specific implementation of those standards in the Sea Level project. After examining the unit cards, AFA has the following specific questions regarding the application of the marten standards: AFA
#3
 - a. Since the TLMP standards require maintaining 30% canopy closure on some units why do many units where this standard is applied defer harvest on substantially more than 30 percent of the unit acreage "to meet Marten standards?" For example, Unit 29 in VCU 7560 defers harvest on 24 acres out of a total unit acreage of 57.9 (41.45 percent of the unit's acreage), then applies the leave tree or structure retention standards for marten throughout the rest of the unit. This same pattern can be seen on many units throughout the project area, and seems to reflect an overly aggressive interpretation of the TLMP marten standards.
 - b. How has the project accounted for retention within units applied for such purposes as slope stability and windfirmness along the perimeter of TTRA riparian buffers? Have these and similar retention requirements been utilized to satisfy some of the canopy retention requirements of the marten standards? If not, why not?
 - c. Would the Forest Service be willing to sit down with a team from AFA and attempt to remedy some of the specific concerns regarding the application of the marten standards to units in the Sea Level project?

Forest Service Response to AFA 1:

Validation of the Brooks and Haynes report is beyond the scope of the decision to be made for this Project. Additional information, not available in the original report, was documented in the Sea Level Draft EIS. The Selected Alternative, would result in 51 MMBF available for harvest in six timber sales ranging from 2 MMBF to 13 MMBF. The Selected Alternative is the response to public comments and issues.

Forest Service Response to AFA 2:

Your comment regarding the value of building-up pipeline volume is noted.

Forest Service Response to AFA 3:

1. The Tongass Plan Implementation Team (TPIT) provided clarification on implementing the TLMP Marten Standards and Guidelines. Using Unit 29 as an example, please refer to TPIT Clarification, Goshawk and Marten Standards and Guidelines, Item E.2. We used a 1:1 factor for stand structure retention as most of our stands begin with only 45 to 75 percent canopy closure. If we use a 60 percent average canopy closure, we need to leave 50 percent of the stand to make the required 30 percent canopy retention (assuming the other 50 percent of the stand is harvested using an even-aged management technique). What this means for Unit 29 is that for every acre of high-value marten habitat harvested, we need to leave one acre of high-value marten habitat unharvested (the 1:1 factor applied).
2. Yes, these and similar requirements are used to satisfy Marten Standards and Guidelines. For further clarification on what contributes to retained structure and canopy, please see TPIT marten recommendations, specifically items A and B.
3. Thank you for meeting with the Forest Service on October 1, 1998, to discuss this issue.

G Appendix

Letter #13: Alaska Forest Association, page three

2. The Medium OGR at the end of Carroll Point seems unnecessary to meet the TLMP OGR strategy, given its proximity to the Misty Fjords Wilderness National Monument (See, TLMP, Appendix K). AFA #4
3. In responding to any alleged connectivity concerns on the narrows near Gnat Cove the Forest Service should take remaining structure and the value of second growth into consideration. AFA #5
4. By using a clearcut prescription on as many units as possible, economically viable timber sales could be offered. Clearcuts would also increase the chance to manipulate species composition for future entry. Finally, a clearcut prescription should be consistently applied in units that are suffering from moderate to high dwarf mistletoe infestations. AFA #6
5. Where TLMP S&Gs require structure to be left in a unit, the Forest Service should meet the retention requirements by leaving unmerchantable and low value timber to the extent feasible. AFA #7
6. Unit prescriptions should be evaluated in terms of their economic impact to maximize the viability of the sales and to ensure the best economic return to the U.S. Treasury. AFA #8

Other multiple use considerations are given adequate consideration in the Sea Level DEIS, including under Alternatives 2 and 3

1. Wildlife considerations include:
 - migration corridors which are more than adequate to provide for ungulate travel;
 - deer, bear, wolf and other habitat is maintained by unit spacing, S&Gs and other measures;
 - adjacent areas where development is prohibited, especially the Misty Fjords Wilderness National Monument, help ensure viability for deer, wolves, bear, marten and other wildlife; and
 - eagles are given 330 foot buffers around known key habitat.AFA #9
2. Fisheries are adequately protected by regulating activities within riparian management areas in accordance with TLMP standards. Published studies by M.L. Murphy of the National Marine Fisheries Service and recently completed studies by Martin Environmental, Inc., indicate that most of the benefit from riparian buffers is conferred by the first 66'. TLMP standards, which have been met or exceeded by the Sea Level DEIS, are therefore more than adequate. AFA #10
3. Eco-tourism opportunities are adequately protected:
 - as a relatively non-intrusive use, eco-tourism is virtually unrestricted in its opportunities on the Tongass; many more acres are available for this type activity than are available for resource extraction;AFA #11

Forest Service Response to AFA 4:

The Carroll Point Medium Old-Growth Habitat Reserve was analyzed in the TLMP as part of the old-growth reserve strategy and adopted in the TLMP ROD. It plays a role in the overall reserve strategy to provide habitat for viable populations, well distributed across the Tongass National Forest. A TLMP amendment would be required to eliminate the Carroll Point Medium Old-Growth Habitat Reserve.

Appendix K in the TLMP outlines the old-growth habitat reserve requirements. Appendix K says "Medium reserves shall not be greater than 8 miles from the nearest large or medium reserve..." The Carroll Point Reserve is about 6 to 7 miles from the nearest reserve (in Misty Fiords). If eliminated, there would be about a 20 mile distance between the Deer Mountain Reserve and Misty Fiords.

Forest Service Response to AFA 5:

The TLMP states that "Designed corridors should be of sufficient width to minimize edge effect and provide interior forest conditions." We did not include younger growth in the corridors because they are too small to provide interior forest conditions. This more accurately implements the standards and guidelines as outlined in the TLMP.

Forest Service Response to AFA 6:

Your comments have been noted. The Draft EIS addresses this comment; over 90 percent of the harvest consists of even-aged management. The comment that a clearcut would increase the chance to manipulate species for a future entry, presupposes that a high front-end investment will need to be made either in planting or thinning or both, and carried through the rotation. Other methods of harvest may be able to achieve the same goal through commercial harvest of a portion of the stand in each entry.

Forest Service Response to AFA 7:

The Forest Service intends to do exactly what you propose; however due to operability, safety, and TLMP standards and guidelines requirements, most units will need some additional structure to be left, using small deferral clumps. Although specific numbers of large trees are required by the TLMP standards and guidelines, these numbers are difficult to meet with unmerchantable or low-value timber.

Forest Service Response to AFA 8:

Unit prescriptions have been evaluated in terms of the economic impact. Please refer to the Socioeconomic Environment section of the Sea Level Draft EIS. As you are undoubtedly aware, standards and guidelines, as outlined by the TLMP (1997), must be implemented. This is not optional. The application of various TLMP standards and guidelines can and do often adversely affect the economics of any particular timber harvest block. As maximization of timber sale economics is often in direct conflict with the newly issued TLMP standards and guidelines, which are designed to insure the protection of forest resources, it simply is not possible to accomplish both goals simultaneously in all cases.

Forest Service Response to AFA 9:

Thank you for your comments; we agree.

Forest Service Response to AFA 10:

Your comment is noted and considered.

G Appendix

Letter #13: Alaska Forest Association, page four

- within the Sea Level project vicinity, ample provisions are made for eco-tourism, including the Misty Fjords Wilderness National Monument; and
- no harvest units will be visible from the Misty Fjords Wilderness National Monument.

AFA #11

In summary, AFA urges the adoption of Alternative 2 and a careful review of the application of the TLMP standards and guides, particularly the marten standard, to ensure the maximum economic harvest from the Sea Level Timber Sale project.

The Alaska Forest Association appreciates the opportunity to participate in the planning of the Sea Level Timber Sales project. Please contact me at (907) 225-6114 if you have any questions concerning any of these comments.

Sincerely,



Jack E. Phelps
Executive Director

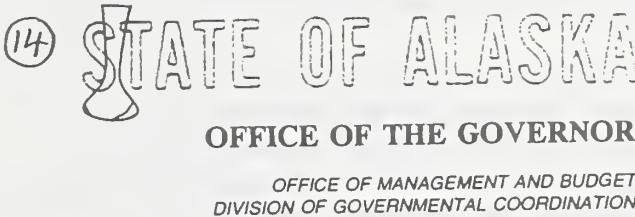
cc: AFA Board of Directors
Jim Clark, Robertson, Monagle and Eastaugh

Forest Service Response to AFA 11:

We agree that the alternatives do not restrict or limit the opportunities for eco-tourism on the Tongass National Forest. See also the Forest Service Response to SEACC 16 for additional information on the effect of the Sea Level Project on tourism.

Letter #14: Alaska Division of Governmental Coordination, page one

The letter from the Alaska Division of Governmental Coordination (ADGC) synthesized the comments from the Alaska Department of Fish and Game (ADFG) and the Alaska Department of Environmental Coordination (ADEC). Rather than respond again to the same comments, we refer to previous Forest Service responses to the original ADFG and ADEC letters (see page G-152). There were no new concerns raised by the ADGC that required a response.



TONY KNOWLES, GOVERNOR

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August 25, 1998

Mr. Pete Griffin, Ketchikan Ranger District
U.S. Forest Service
3031 Tongass Avenue
Ketchikan, AK 99901

Dear Mr. Griffin:

SUBJECT: SEA LEVEL TIMBER SALE – NEPA FINDING
State ID No. 9806-10JJ

The Division of Governmental Coordination (DGC) has completed coordinating a NEPA scoping review for the Sea Level Timber Sale. We appreciate the Forest Service visit of August 6, 1998 to talk to the State about NEPA and Alaska Coastal Management Program consistency issues. We will initiate a review for consistency upon receipt of a federal consistency determination.

The following comments were received from the Department of Fish and Game, and Department of Environmental Conservation. Some preliminary ACMP issues are identified, however, these are not "official" ACMP consistency comments. These will not be issued by the State until a review for consistency is completed.

Department of Fish and Game

In a time when the Forest Service has publicly declared a movement away from clearcutting as the predominant method of harvest in the National Forest it appears that clearcutting will be used in 90% or more of the volume in this sale. Figure 2-2 is a histogram showing volume to be clearcut compared to other methods. The DEIS does not appear to include a concise listing of the number of acres to be clearcut compared to other methods by alternative. Without a summary one is forced to go through the unit cards one by one to find out where and how much of the units in this sale will be clearcut.

ADGC 1

The term "patch cuts" seems to be offered as an alternative to clearcuts in the DEIS, but as described in the unit cards and confirmed by Forest Service staff, patch cuts appear to

ADGC 2

Letter #14: Alaska Division of Governmental Coordination, page two

Sea Level NEPA Comments

2

08/25/98

be simply clearcuts that do not extend to the nominal boundaries of mapped harvest units. Patch cuts also seem to be only proposed for meeting TLMP marten standards and guidelines (see below). This is hard to confirm because one can only find which units are to be patch cut by thumbing page by page through the unit cards. It is discouraging that so soon after the TLMP Revision the Forest Service proposes reverting to the old pattern of relying to such a large extent on clearcutting.

ADGC 2

This sale also appears to continue the pre-TTRA practice of disproportionate harvest of high volume old growth (tables pg. 3-130). Sixty-five percent of the harvest acres in most alternatives would be in the high volume strata, whereas high volume strata make up only 50% of the tentatively suitable acres. This is admittedly a crude measure, but the DEIS offers no more detailed analysis of the effects of the sale on high volume stands in the project area. The reason usually given for focusing harvest in high volume is the need to help pay for road construction. In this project area, however, an extensive road network is already in place. As ADF&G has pointed out repeatedly in the past, high-grading of high volume stands early in the rotation reduces wildlife habitat values prematurely and makes it difficult to offer economic timber sales in future entries.

ADGC 3

Long-term Sustained Yield

As in past NEPA reviews of Forest Service timber sales, we continue to be concerned that timber availability figures established within the forest plan (TLMP) might overestimate the actual timber supply existing within site-specific project areas. If this continues to occur in new sale areas, as it has in the past, it would appear there is a need to develop better information supplemental to TLMP. The objective of this would be to more accurately identify the actual suitable timberland component at both the forest-wide and individual project levels. It is critical to avoid unrealistic expectations for achieving timber harvest levels, which might not be sustainable over the long-term.

ADGC 4

The LTF shown on the DEIS maps in VCU #7570 is probably mislocated. It appears this LTF should be depicted on the shoreline across from Snipe Island in VCU #7560.

ADGC 5

The cumulative impact assessments within the DEIS may be different if all of the previous cutting within the project area is taken into consideration. This would include areas logged by the Cape Fox Corporation on their lands adjacent to Forest Service lands. Additional logging within certain VCUs may need to occur under the selective harvest guidelines specified within the TLMP.

ADGC 6

The Preferred Alternative Map was inadequate in size and clarity to easily review and understand. We recommend that anytime a preferred alternative is selected for an EIS such as this, the map representing such an alternative be reproduced in the same size scale and colors as the unit pool map. This would assist respondents to an EIS in reviewing a more readable product. It would also help the FS by focusing external review efforts on the preferred alternative.

ADGC 7

Letter #14: Alaska Division of Governmental Coordination, page three**ACMP CONSISTENCY ISSUES**

The Alaska Forest Resources and Practices Act (FRPA) and corresponding Regulations (FRPR) constitute the ACMP standards for federal timber sales. The pertinent standards applicable for evaluating whether the Sea Level timber sale is consistent with the ACMP for the management of fish and wildlife resources are summarized in the paragraphs below. Although the FRPA standards cited reference state forestland, Section 41.17.900. APPLICABILITY specifies:

- (b) *For federal land,*
 - (1) *the degree of resource protection may not be less than that established by this chapter for state land except that AS 41.17.119 establishes the minimum riparian standard;*
 - (2) *a timber harvest activity subject to this chapter shall satisfy the requirement to be consistent to the maximum extent practicable with the Alaska coastal zone management program if the federal land management plans, guidelines, and standards applicable to that timber harvest activity provide no less resource protection than the standards that are established in this chapter provide for state land except that*
 - (A) *AS 41.17.119 establishes the minimum riparian standards;*

In December 1993, the State Attorney General carefully analyzed the entire FRPA as it relates to ACMP reviews of riparian harvest under federal timber sales and concluded:

the riparian zones must be at least 100 feet, and there must also be a determination that within 100 to 300 feet, the federal requirements for the harvest are at least as restrictive as the state requirement that within 100 to 300 feet the activity is "consistent with the maintenance of important fish and wildlife habitat." AS 41.17.118(a)(2)(B).

ADGC 8

Therefore, the sections of the FRPA (and by incorporation, applicable regulations from the FRPR) noted below are part of the ACMP standards for federal timber sales (underlines added):

AS 41.17.060. REGULATORY AND ADMINISTRATIVE STANDARDS.

- (b) *With respect to state, municipal, and private forest land, the following standards apply:*
 - (5) *significant adverse effects of soil erosion and mass wasting on water quality and fish habitat shall be prevented or minimized.*
- (c) *With respect to state and municipal forest land only, the following standards also apply:*
 - (1) *forest land shall be administered for the multiple use of the renewable and nonrenewable resources and for the sustained yield of the renewable resources of the land in the manner that best provides for the present needs and preserves the future options of the people of the state;*

(3) *to the extent its capacity permits, forest land shall be administered so as to provide for the continuation of businesses, activities, and lifestyles that are dependent upon or derived from forest resources,*

(5) *there may not be significant impairment of the productivity of the land and water with respect of renewable resources;*

(7) *allowance shall be made for important fish and wildlife habitat.*

AS 41.17.118. RIPARIAN STANDARDS FOR STATE LAND.

(a) *The riparian standards for state lands are as follows:*

(2) *on state forest land managed by the department that is located south of the Alaska Range,*

(A) *harvest of timber may not be undertaken within 100 feet immediately adjacent to an anadromous or high value resident fish water body;*

(B) *between 100 and 300 feet from the water body, timber harvest may occur but must be consistent with the maintenance of important fish and wildlife habitat.*

AS 41.17.119. MINIMUM RIPARIAN STANDARDS FOR OTHER PUBLIC LAND. *On other public land, harvest of timber may not occur*

(1) *within 100 feet from the shore or bank of an anadromous or high value resident fish water body that is located south of the Alaska Range;*

ADGC 8

It is necessary that the development and implementation of the Sea Level project clearly meet or exceed the standards required in the FRPA.

Unit Cards

The applicable ACMP standards for road location, construction, drainage, bridges, culverts and other water crossing provisions, maintenance, closure, material and disposal sites, rehabilitation after mass wasting, and blasting are found in Article 3 of the Regulations (11 AAC 95.285—95.335). Information required in the detailed plan of operations is described in 11 AAC 95.220 (5), (7), (8), and (9).

Although portions of the unit card information for the Sea Level Timber Sale are adequate, other portions appear incomplete. While the map detail and scale of the unit cards are good, many of the narratives for the unit cards do not contain detailed descriptions of the various resource values within the units. It is difficult for reviewers of these cards to utilize the minimal field information provided to discern what may be significant differences in the various resource values present.

ADGC 9

As stated previously, another concern is for Class III streams. All Class III streams (as designated under the 1997 TLMP) shall receive, at a minimum, the measures described in the RIP2.III.F process group management directions. The ADF&G understands that these standards and guidelines allow for “site-specific adjustments to Process group direction,” but only after a watershed analysis has been completed, and “only if the objective of the process group can be met.” ADF&G shares ADEC’s concerns related to the purpose and kinds of “watershed analyses” included in the Sea Level DEIS. The

ADGC 10

Letter #14: Alaska Division of Governmental Coordination, page five

DEIS does not include any watershed analysis which would justify adjustments to the process groups.

ADGC 10

Roads

The applicable ACMP standards for road location, construction, drainage, bridges, culverts and other water crossing provisions, maintenance, closure, material and disposal sites, rehabilitation after mass wasting, and blasting are found in Article 3 of the Regulations (11 AAC 95.285—95.335). Information required in the detailed plan of operations is described in 11 AAC 95.220 (5), (7), (8), and (9).

Chapter 3 describes the transportation system for this timber sale area:

There are approximately 321 miles of Forest Service roads on Revilla Island, 158 miles of which are within the Project Area... From 1990 to present, approximately 86 miles of local roads have been constructed... There are approximately 8.6 miles of traffic service level D. All new road proposed for each alternative will be constructed as traffic service level D.

Travel service level D is prescribed under Maintenance Level 1. This allows roads to revegetate naturally while drainage is maintained to keep the roadbed from eroding; drainage structures are either removed or kept open to allow cross drainage of the roadway. The summary of the transportation system indicates that approximately 149.4 miles of the road system within the project area are maintained at Maintenance Level 1.

ADGC 11

We question the extent to which Maintenance Level 1 has been achieved and is consistent with the state's standards referenced above. Due to the lack of a field presence by our staff within this particular project area during the past decade, however, this is an issue that we desire to learn more about before the FEIS and ROD are released for the Sea Level project.

According to Table 5 on page 3-244, eleven fish passage failures were recently documented by the Forest Service in a road condition survey within the Shoal Cove area. This survey reportedly covered 47 miles of the 70 miles of roads existing on the Shoal Cove road system. Table 8 (page 3-247) indicates a total of 18 stream crossing structures scheduled for repair or replacement on the Shoal Cove road system in the preferred alternative.

We would like to conduct field visits with the Forest Service to evaluate the adequacy of the site-specific information contained within the Sea Level DEIS prior to further comment regarding the issues and concerns associated with fish passage and instream activities

Wildlife Corridors and Old-growth Blocks

Letter #14: Alaska Division of Governmental Coordination, page six

VCU #7560: We recommend relocating the small Old Growth Reserve from Mop Point to Units #171 and 172. The reasons for doing this would be (a) protection of quality habitat, (b) an improved connective corridor between Carroll Inlet and Thorne Arm, (c) reduced wildlife viability risks on the Thorne Arm peninsula, and (d) the uncertain status of overselection in the Old Growth Reserve to the south.

ADGC 12

VCU #7552: Units #127, 139, and 140 should remain intact to provide a better wildlife corridor from Sea Level Creek into Misty Fjords. None of these units, however, are included within the preferred alternative.

ADGC 13

VCU #7530: The logging of Units #59, 60, and 5 should be avoided to better protect a wildlife corridor between Shoal Cove and Fish Creek in Misty Fjords. Units 173 and 174 should be deleted to preserve a wildlife corridor from Gnat Cove to Thorne Arm, consistent with the recommendations provided for VCU #7560.

ADGC 14

As with the Chasina project, this one has OGR lands that are encumbered by ANCSA overselections. The Carroll Point medium OGR that would be made completely impractical by conveyance of these overselections, leaving it 4,000 acres of POG shy of present composition (DEIS pp 3-76,77). Failure to retain replacement acres for these encumbered lands threatens the FS old growth strategy. ADF&G opposes harvest of substitute lands until the ultimate dispensation of encumbered lands in OG habitat LUD is resolved. This project area has been highly fragmented by previous logging and very few options remain now for substitute OG habitat. Additional logging in remaining unfragmented old growth would make finding substitute OG habitat problematic.

ADGC 15

The Carroll Point medium OGR does not appear to meet TLMP criteria. TLMP criteria call for medium OGRs to have a minimum of 10,000 acres and a minimum of 5,000 acres of POG and 2,500 acres of high volume POG. The intent of the TLMP guidelines was to have old growth habitat concentrated so that it would function as a block of old growth habitat. Carroll Pt. old growth is not concentrated. The FS had to make Carroll Point 20,000 acres to get 6,300 acres of POG of which only 1,330 appears to be high volume POG (see Appendices to Appendix N of FEIS TLMP Revision). We believe the Forest Service needs to review the composition and size of the Carroll Point medium old growth habitat reserve to determine if it meets the intent and letter of the TLMP guidelines. It appears to us the reserve will need to be moved to a more concentrated block of old growth that contains more high volume. Moving it may also address the overselection issue.

ADGC 16

Deer

The DEIS underestimates the direct effects of this sale on deer habitat capability. The table on pg. 3-182 displays the effects on deer habitat immediately after logging, but does not show the subsequent effects on deer habitat after canopy closure 30 years later. The decline in habitat capability from canopy closure is the greatest concern we have about logging's effect on deer and it is an inevitable consequence of this sale. It needs to be shown in the EIS.

ADGC 17

Letter #14: Alaska Division of Governmental Coordination, page seven

Wolves – The DEIS admits that deer density in parts of the project area are below that recommended by Person et al. (1996) yet proposes to reduce that density further. It estimates deer density as a result of Alternatives 2 and 3 on page 3-179 but not for the other action alternatives. In Wildlife Analysis Area 406 deer density is 13 deer per square mile, considerably below the 18 per square mile recommended by Person et al. for having a high probability of maintaining viable wolf populations. The DEIS appears to imply that because pre-logging deer density was never as high as 18 deer per square mile reducing it further is not a concern. Despite proposing to further reduce deer density and raise the risks that viable wolf populations may not be maintained, the Forest Service does not propose any monitoring of wolves or deer in the project area to determine if wolves are affected by its actions. The DEIS states that maintaining corridors to Misty Fjords National Monument will allow for migration of wolves to the study area to replace those who starve. The Forest Service does not commit to effectiveness monitoring of the proposed corridors to determine if they are actually functioning as claimed. We believe monitoring of logging effects on wolves and other species of concern is essential for all projects like Sea Level which increase risks to the maintenance of viable populations.

ADGC 18

At some point, if habitat reduction continues, restrictions on hunting and trapping may be necessary to insure viability of wolves, marten, and other wildlife. The direct link between possible loss of hunting and trapping opportunity and increased resource development needs to be made clearly in the EIS.

ADGC 19

Marten

We have concerns that the sale as proposed does not apply the TLMP marten standards and guidelines appropriately. The method proposed for retaining canopy in high value marten habitat appears to be patch cuts. Patch cuts appear to be clearcuts within harvest unit boundaries that leave up to 30% of the trees within the unit. This method does not appear to meet the requirement of the guideline that the retained canopy be distributed evenly throughout the harvest unit. The intent of the marten standard and guideline is to use a different method than clearcutting for harvesting. Sea Level may propose smaller areas of clearcut than planned but they are clearcuts all the same. The figure on page 3-174 shows how high value marten habitat would be treated in VCU 7560 where over 33% of productive old growth is harvested. There stricter harvest standards and guidelines are supposed to be used to protect marten habitat and 30% of canopy is to be maintained. The figure appears to indicate that in Alternatives 4 and 5 no canopy retention is proposed for acres of high value marten habitat that are cut. It appears that harvest prescriptions need to be changed in this VCU to comply with TLMP.

ADGC 20

Band-tailed Pigeons

Coastal band-tailed pigeons occur (and probably breed) within the southern extreme of Southeast Alaska. On June 8, 1998, approximately four pairs of band-tailed pigeons were observed west of Unit #89 near the switchbacks across from Shelter Cove. The exhibition of courtship behavior at this time of year indicates potential breeding and

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nesting sites may exist in this vicinity or elsewhere within the project area. Although band-tailed pigeon nesting on the Tongass is not documented within the literature, it is suspected to occur in some localities, such as on Revilla Island and the Cleveland Peninsula.

Band-tailed pigeons typically have low productivity, but a high fidelity to forested nesting sites. Research has shown that most immature band-tailed pigeons return as breeding adults to the general area where they were reared. In the coastal population, which is one of only two populations within North America, these active nesting areas are oftentimes in places that are scheduled for timber harvest. Breeding survey data from 3 studies indicate that coastal band-tailed pigeon populations during the past 15-30 years have declined substantially. The potential exists that viability risks for Alaska-breeding band-tailed pigeons, which appear to reproduce in the extreme southern portion of the Tongass National Forest, could be high. If, for example, band-tailed pigeons are not already breeding in areas protected from logging, but lose breeding habitats within areas being logged, they may not readily colonize or maintain reproduction in the unlogged areas set-aside in old-growth reserves. These viability concerns were not adequately addressed within the TLMP Revision, nor is the issue discussed within the Sea Level DEIS. Adequate surveys and research should be conducted to assure that timber harvest projects will not risk band-tailed pigeon viability on the Tongass.

ADGC 21

Department of Environmental Conservation

NEPA & CLEAN WATER ACT SECTION 319 COMMENTS

I.)* SEA LEVEL TIMBER SALE CONTRIBUTION TO THE TONGASS-WIDE ALLOWABLE SALE QUANTITY (ASQ)

As stated in the Forest Plan (Timber Standards and Guidelines, page 4-94), *"The Allowable Sale Quantity is a ceiling; it is not a future sale level projection or target and does not reflect all of the factors that may influence future sale levels"* (emphasis added). This point was also emphasized by the Regional Forester at several public meetings and media events after the TLMP ROD was signed. However, according to Appendix A of the DEIS, the proposed volume for this timber sale was arrived at for the specific purpose of contributing to and meeting the Tongass-wide ASQ. Specifically, Appendix A (page A-6) states *"This analysis represents one scenario for meeting the average annual ASQ of 267 MMBF. Obviously, there can be other scenarios which harvest either more or fewer acres in the Project Area and still attain the ASQ"* (emphases added). In addition, Table 2 in the appendix displays the very detailed Tongass National Forest timber sale schedule (a "future sale level projection") and the targeted sale-specific volumes that are proposed to meet the ASQ. Consequently, the rationale used for arriving at the proposed volume for this timber sale directly contradicts

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the Forest Plan and the public statements made by the Regional Forester regarding ASQ-targeted timber sale volumes.

As demonstrated during the administration of the Long-term Timber Sale Contract, such target-driven sale volumes leave little flexibility in determining the amount and location of timber harvesting within individual project areas, particularly within those areas designated by TLMP as development LUDs (e.g., Timber Production, Modified Landscape, Scenic Viewshed). We raise this issue due to experiences that we have had with other recent timber sales, in which we were told that because the Forest Plan designated a particular area as a development LUD, it had to be entered during the respective timber sale and that the volume from the area was necessary in order to meet the purpose and need (contributing to the ASQ) of the project. Later in these comments, we are requesting that timber harvesting be deferred within the Sea Level Creek watershed, and hope that the flexibility exists to accommodate this request.

ADGC 22

II.) WATERSHED ANALYSIS**A.) Adjustments to Class III Process Group Standards and Guidelines**

According to the Watershed Report (Appendix D, Page 36), *"Harvest unit recommendations for protection of fish and water resources is located on each unit card"* (sic). As indicated on the unit cards, with the exception of an unbuffered HC5 channel in Unit 153, all Class III streams are proposed to be protected by slope break buffers per the direction of TLMP Standard and Guideline RIP2.III.E. However, in several places, the DEIS indicates that these Riparian Management Areas (RMAs) may be adjusted to permit harvesting within some of these Class III buffers. Specifically, according to the DEIS (page 3-22), *"Based upon watershed analysis to the site level ..., timber within Class III RMAs may become available for timber harvest and be converted from nonsuitable to suitable forested lands."* However, no such site-level analyses have been completed for any of the watersheds in the Project Area. Additionally, in referring to Table Aquatic-5, the DEIS (page 3-22) states *"The acreage displayed in the class III column reflects an estimate of acreage that could be adjusted upon further site refinement of RMA delineations."* Also, the boilerplate statement in the Major Watersheds discussion (pages 3-28 through 3-30) indicates that process group buffers may not be implemented on some unknown number of Class III streams within many of the watersheds in the Project Area: *"There may be occasion in this watershed where reduction of RMA standard and guideline buffers along class three streams would not adversely affect the quality of fish habitat."*

ADGC 23

Apparently, the decision on which streams will not be buffered will occur at some unknown time in the future as, according to page 3-26, *"Recommendations are that RMA Standards and Guideline buffers should be adjusted only where there will be no increase in risk to fish habitat or other RMA functions within Project Area watersheds."* Since these streams or areas have yet to be identified, we can only assume that at this stage in the planning process, insufficient site-specific, field-based information exists to make this determination. Consequently, we are unable to determine if and where the process group

Standards and Guidelines will not be implemented. However, according to the Watershed Report (pages D-2 and D-3), only landscape-level and watershed-level analyses have been completed for this project. Therefore, without completing site-level watershed analyses, all recommendations for adjusting any of the Class III process group buffers within this Project Area are unwarranted, as the Forest Plan requires this level of analysis prior to making such adjustments. If adjustments actually are proposed, then a complete watershed analysis, including all site-level analyses, should have been completed prior to the release of the DEIS so that reviewers would have had the opportunity to comment on any adjustments being proposed.

AD6C 23

In addition, the DEIS appears to misinterpret the purpose of conducting a site-level watershed analysis. Specifically, the DEIS (page 3-13) states *"Watershed-level analyses are provided for the principle Sea Level Project Area watersheds. Additional site-specific analysis is used to address the potential delivery of sediment from class III to class I and II streams. The intent of this site-specific analysis is to determine where protection of headwater areas is required to reduce the risk of downstream impacts to fish habitat"* (emphasis added). However, the Forest Plan automatically requires the protection of such headwater Class III streams through the implementation of the process group Standards and Guidelines (RIP2.III.E). Consequently, the *"site-specific analysis"* which the DEIS refers to is actually done to determine if and where the full implementation of the Standards and Guidelines is not necessary to reduce the risk of downstream impacts to fish habitat. However, no such site-specific analyses were completed. In addition, although the DEIS states that watershed-level analyses are provided for the principal watersheds in the Project Area, this level of analysis was only applied to the Painted Creek and Sea Level Creek watersheds; the other 42 watersheds that are described in Appendix D were analyzed at the landscape-level. Therefore, this statement is misleading.

B.) Insufficient Field Review

Although the DEIS indicates that Basin Wide Surveys were performed to document the distribution of fish habitat within the Project Area, from the information presented in the individual watershed reports (Appendix D), it is apparent that up to 21 of the total 44 watersheds were not inventoried in the field but, instead, were analyzed using GIS data. This lack of field review is evident by the statements *"The ADF&G stream catalog shows ..."* and *"The GIS layer identifies ..."* Consequently, no site-specific assessment of stream channel conditions or riparian vegetation has occurred within these watersheds. This is significant as, according to the reports, ten of these watersheds will exceed 20 percent of their respective watershed acres consisting of second growth less than 30 years old. Specifically, these include:

AD6C 24

D91A (Licking Creek)	24% cumulative harvest
E13A	31% cumulative harvest
I15A	45.5 % cumulative harvest
D87A (Marble Creek)	31% cumulative harvest
D96A (Easy Creek)	30% cumulative harvest

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EY3A (Gnat Creek)	57% cumulative harvest
E48A	23% cumulative harvest
E71A	32% cumulative harvest
EZ9A	25% cumulative harvest
FA4A	36% cumulative harvest

While we are unable to determine if adjustments will be made to the process group Standards and Guidelines on the Class III streams in these watersheds, according to the Major Watersheds discussion in the DEIS (page 3-29), for Easy Creek (D96A), *"There may be occasion in this watershed where reduction of RMA standard and guideline buffers along class three streams would not adversely affect the quality of fish habitat."* However, as indicated above, without conducting a field-based (site-level) watershed analysis, this recommendation is not valid, nor does it meet the direction of Appendix J of the Forest Plan which requires a *"more intensive, complex, and field-based"* analysis for watersheds with *"more than 20% of the watershed acres with trees in second growth younger than 30 years"* (emphasis added). This required level of analysis is also discussed in the draft Watershed Analysis Handbook (page 3) which states that *"Watershed analysis can be done to provide a basis for adjusting the application of TLMP Standards and Guidelines in a project area. Since Standards and Guidelines were developed from field data, field evaluation is needed to adjust them. Data resolution at the landscape-level or watershed level is not fine enough to justify such an adjustment. Only a field-based (site-level) watershed analysis is sufficient to allow for adjusting the application of a Forest Plan Standard and Guideline."* Consequently, such a field-based watershed analysis is required prior to making adjustments to the Class III process group buffers within this watershed and all others in the Project Area.

ADGC 24

In addition to the apparent lack of field review within 21 of the 44 watersheds that were analyzed and discussed in Appendix D, the DEIS (page 3-22) states that *"Based on initial site visits, it is likely that 50 percent more [Class III] streams will be found on the ground than are shown on existing inventories."* If this is the case, then it raises significant doubts concerning the validity of the watershed analysis, as drainage density is a key parameter in the Sediment Risk Assessment model, and is used as an indicator of drainage efficiency or sediment transport. Consequently, until these additional streams are verified in the field and included in the analysis, the outputs of the model can only be viewed as suspect.

ADGC 25

C.) Watershed Reports

According to Appendix D (page D-2), the watershed report that was prepared for this DEIS *"will provide a strategy and site-specific recommendations to provide for long-term stability of riparian, channel, and fish habitat conditions."* However, with the exception of the proposal to helicopter log units in the Gunsight Creek watershed, and the recommendations concerning road construction and buffers within the Painted Creek and Sea Level Creek watersheds, no such strategy or site-specific recommendations are provided in the individual watershed reports. For the most part, they are merely summaries of information derived from the apparently incomplete Basin Wide Surveys

ADGC 26

and the GIS-based Sediment Risk Assessment model. In particular, it is not clear as to how or whether the watershed analysis influenced the design, location, and extent of proposed road construction and timber harvesting within the watersheds of the Project Area. As an example, the report for the Whistler Creek watershed (page D-23) states that *"The depositional channels of this watershed start at approximately 980 feet up the mainstem. This means that any sediment transported has a high potential of settling in this area."* However, no discussion is provided which explains how the design and location of the proposed units and roads in the watershed will mitigate this concern.

ADGC 26

In addition, the information presented in the reports does not include the minimum amount of "products" that the Forest Plan intended to be addressed in a watershed analysis. Specifically, TLMP Appendix J (page J-2) states *"Watershed analysis, at a minimum, will identify and describe aquatic and riparian resources, physical watershed characteristics and relevant issues. Products include:*

1. *Sediment risk analysis*
2. *Description of forest vegetative structure by size and age class*
3. *Identification of stream classes and aquatic species*
4. *Description of aquatic values and uses*
5. *Channel type inventory*
6. *Identification of Riparian Management Areas*
7. *Total miles of road and number of stream crossings*
8. *A description of the potential cumulative risks to aquatic resources resulting from past management disturbances*

ADGC 27

Although not as detailed, these products are very similar to those listed on pages 17 and 32 of the draft Watershed Analysis Handbook for landscape-level, watershed-level, and site-level analyses. Specifically, those products that were not provided in the reports include:

Identification of Riparian Management Areas: Although the VCU maps display "implementation" buffers for Class I and II streams (and lakes), the RMAs for Class III streams are not shown and are not discussed in the individual watershed reports. They are also not depicted on the unit card maps. This is a significant omission, especially for those watersheds in which the DEIS (pages 3-29 and 3-30) suggests that the process group buffers may be adjusted. In addition, for Core Topic 3 (vegetation), the draft Watershed Analysis Handbook identifies the percentage of Class I and II streams that have been harvested to the stream bank as a basic component of landscape-level, watershed-level, and site-level watershed analyses. However, this information was not included in the reports. Rather, the reports merely indicate the miles of Class I or II streams that pass through units that were harvested prior to the passage of TTRA; no indication is provided concerning the amount of harvesting to the stream bank. In fact, no implications of this pre-TTRA harvesting are discussed at all.

ADGC 28

Number of stream crossings: Although an important consideration in a watershed analysis, this basic information was not included in the reports and does not appear to

ADGC 29

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have been factored into the analysis, as no mention is made of stream crossings. However, the draft Watershed Analysis Handbook (pages 5 through 7) identifies the density of roads and stream crossings as a critical element that should be addressed in a watershed analysis, including the cumulative effects analysis (pages 17 and 31).

ADGC 29

A description of the potential cumulative risks to aquatic resources resulting from past management disturbances: Although most, but not all, of the reports indicate the miles of existing and proposed roads, and the percentage of existing and proposed harvesting, no discussion is presented regarding the effects (both current and projected) of these cumulative activities on watershed processes and conditions, including runoff timing and yield, and stream channel stability, substrate composition, and fish habitat conditions. In other words, no Cumulative Watershed Effects (CWE) analysis has been completed. This omission is particularly noteworthy given the extensive harvesting that has occurred within the Project Area. According to Table Aquatic-6 (DEIS, page 3-27), a total of 23 watersheds are proposed to exceed 20 percent of their respective watershed acres consisting of second growth less than 30 years old. In particular, 15 of these watersheds will have cumulative harvesting totals of 35 percent or more, with watersheds I15A and FA1A totaling 60 percent and 53 percent, respectively.

ADGC 30

In addition, not only has a CWE analysis not been performed for this project, but the cumulative harvesting and roading figures presented in the watershed reports are vastly different from those presented in Table Aquatic-6. For example, the watershed report for watershed I15A states that 39 percent of the watershed has been harvested in the last 30 years and that Alternative 2 proposes to add an additional 1.2 miles of road, and harvest an additional 6.5 percent of the watershed (45.5 percent total cumulative harvesting). However, Table Aquatic-6 indicates that 47 percent of the watershed has been harvested and roaded in the last 30 years, and that an additional 13 percent is proposed under this project, resulting in a cumulative total of 60 percent. This same type of discrepancy is found in nearly all of the watershed reports. Consequently, we are unable to determine what the actual level of cumulative harvesting and roading will be for each watershed.

ADGC 31

Adjustments to the Forest-wide Standards and Guidelines: Although the Major Watersheds discussion in the DEIS indicates that the Class III process group buffers may be adjusted in some of the watersheds in the Project Area, no indication is provided regarding which buffers in which units are being considered for adjustment. If the landscape-level and watershed-level analyses indicate that some adjustments may be possible, then it would seem reasonable that at least some idea exists as to where these site-specific adjustments could be made.

ADGC 32

Products for Core Topic 6: Species and Habitat: According to the draft Watershed Analysis Handbook (page 29), for Core Topic 6 (Species and Habitat), the following products are to be included in the report for a watershed-level analysis, such as those completed for the Painted Creek and Sea Level Creek watersheds:

ADGC 33

1. A map of the watershed with tributaries delineated (e.g., valley segments, stream reaches) coded by AHMU class and channel type.

2. Charts or maps displaying areas with biologically significant habitats, such as highly productive or sensitive channel types, over-wintering habitats, flood and low-flow refugia, and scarce habitats, such as rich fens and groundwater upwellings.
3. An annual hydrograph of the watershed displaying critical periods for fish species, such as summer and winter low flow conditions, and flood periods.
4. A map of the high density spawning areas for pink and chum salmon.

ADGC 33

However, with the exception of the VCU maps which display tributaries coded by AHMU class, none of the other products listed above were included in the Painted Creek and Sea level Creek watershed reports. Instead, the maps contain only the minimum amount of information that is to be included for a landscape-level analysis.

In addition to the deficiencies noted above, several of the individual watershed reports contain confusing and/or conflicting information, including:

1. At the top of Page D-40, the Sea Level Creek watershed report states *"In 1995 the USFS conducted basin wide surveys in this watershed to quantify habitat, determine fish presence, and identify barriers. Approximately 2,000 meters upstream from the confluence [with Gokachin Creek], Sea Level Creek a 7-meter bedrock waterfall prevents upstream migration of anadromous fish"* (sic). We are unable to determine what this last sentence means. If, in fact, it is referring to Sea Level Creek, then what did the Basin Wide Surveys find in the way of fish habitat and fish species? The only fisheries information that is presented in the report is that from the 1973 ADF&G habitat survey of Gokachin Creek. However, no management activities are proposed within the Gokachin Creek sub-watershed. Consequently, the report provides no information regarding Species and Habitat (Core Topic 6) for the Sea Level Creek watershed.

ADGC 34

2. The report for watershed D91A (Licking Creek) states that *"Alternative 2 proposes no action in this watershed."* However, the major watersheds discussion in the DEIS (page 3-29) states that *"If units identified in the unit pool for this watershed were harvested, 22 percent of the watershed would be roaded or harvested [the watershed report indicates that 24 percent of the watershed has been harvested in the last 30 years]. Licking Creek contains approximately two miles of pink and coho salmon habitat in the northern subwatershed. The proposed harvest units identified in the unit pool surround the headwaters of this habitat."* In addition, the Project Area Map shows five units in this watershed.

ADGC 35

3. The report for watershed E53A (Happy Humpy Creek) states that *"70 percent of the watershed is characterized as MMI class 3 or 4" and that "23 percent of the stream channels store sediment."* In addition, it also states that *"All class I habitat is high complexity floodplain habitat."* Given these characteristics, why did this watershed score a Potential Impact Index rating of 1, ranking it as the lowest potential risk for sediment among the 53 watersheds in the Project Area? Although the report indicates that

ADGC 36

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Alternative 2 does not propose any road construction or timber harvesting in this watershed, it does state that *"harvest units in this watershed were displayed in the Notice of Intent and could be included in FEIS alternatives."* ADGC 36

4. The report for watershed D79A states that *"Eighty-seven percent of the stream channels in this watershed transport sediment with no depositional streams."* However, in the last sentence of the second paragraph, it states *"There are approximately six miles of class I adfluvial habitat; ninety percent is high complexity floodplain habitat"* (emphasis added). ADGC 37

5. The report for watershed FA1A (Swing Creek) states *"The lakes in this watershed are surrounded by steep hills that contain all the transport process channels"* (emphasis added). However, the following sentence states that *"There are no MMI 3 or 4 soils within this watershed."* ADGC 38

6. The report for watershed FA3A states that *"Sixty-nine percent of the stream channels in this watershed transport sediment and 1 percent of the stream channels store sediment."* What is the function of the remaining 30 percent of the stream channels? ADGC 39

7. The PII values and/or PII rankings identified in the reports for watersheds D91A, I14A, D79A, D96A, and E42A are different from those indicated in the Major Watersheds discussion (DEIS, pages 3-29 and 3-30) for these watersheds. In addition, the report for the Painted Creek watershed (page D-32) assigns a PII value of 75 and a PII rank of 2. However, the last sentence on page D-32 states *"Painted Creek has a Potential Impact Index value of 69, ranking this watershed 6th among the 53 watersheds ranked for sediment risk in the Sea Level project area."* ADGC 40

D.) Forestry Sciences Laboratory (FSL) Effectiveness Monitoring Study

As indicated in Appendix D (page D-32), the FSL will be conducting a study in the Painted Creek watershed to evaluate the effectiveness of the Forest Plan's Fish and Riparian Standards and Guidelines in maintaining stream channel and fish habitat conditions. Consequently, the management prescriptions for activities in this watershed, including road construction methods, harvest unit design, silvicultural prescriptions and, especially, the types of BMPs and Standards and Guidelines that will be implemented should be tied directly to the FSL study design. If this hasn't been done, then we strongly encourage the Ketchikan Ranger District to actively coordinate their planning efforts for this watershed with the FSL to ensure that the study's objectives are met. ADGC 41

E.) Sea Level Creek Watershed

The report for the Sea Level Creek watershed (page D-40) states *"Because of the size of the watershed, amount of fish production, and pristine characteristics of the watershed a more detailed analysis will be conducted."* While more detailed watershed analyses should be performed whenever possible, such analyses should be given higher priority to those areas where cumulative watershed effects is a concern. This point is highlighted in ADGC 42

Appendix J of the Forest Plan which states *"When there are multiple risks to fish in the watershed, the intensity of watershed analysis should be commensurate with the level of cumulative risk."*

ADGC 42

In addition, given the pristine characteristics and high fish production values of the watershed, we believe that it would serve as an excellent reference watershed for the Project Area, and recommend that it be used as such and not entered at this time. Although it is northerly trending, it could be used as a control for the FSL's monitoring study in the Painted Creek watershed. Consequently, we recommend that either Alternatives 4 or 5 be selected as the preferred alternative for this project as, according to the DEIS, both of these alternatives avoid harvesting within the Sea Level Creek watershed.

ADGC 43

III.) HARVESTING ON SLOPES >72%

TLMP standard and guideline S&W112.I.A.5 states *"At the Forest Plan level, slope gradients of 72% or more are removed from the tentatively suitable timber base due to high risk of soil mass movement and accelerated erosion of class IV channel systems. At the project planning level, the Forest Supervisor or District Ranger may approve timber harvest on slopes of 72% or more on a case-by-case basis, based on the results of an on-site analysis of slope and class IV channel stability and an assessment of potential impacts of accelerated erosion on downslope and downstream fish habitat, other beneficial uses of water, and other resources."*

According to the unit cards, 85 units (or 64% of the total 133 units in the unit pool) contain more than half an acre of slopes greater than 72% which have been made available for harvesting in this DEIS. Collectively, these total approximately 181 acres, with Units 75, 76, 203, 205, and 214 each containing 10 acres or more of such slopes. In particular, Unit 75 contains 34 acres of slopes greater than 72%, which represents over half that unit's total acreage. The only rationale provided in the unit cards for this amount of harvesting is the boilerplate statement presented in the Soils/Watershed narrative that *"An on-site analysis of these slopes by the IDT soil scientist determined that the risk of potential impacts of accelerated erosion on downslope and downstream fish habitat, other beneficial uses of water and other resources was minimal and these slopes are included within the timber harvest unit."* However, not only is this amount of harvesting contrary to the Tongass Plan Implementation Team (TPIT) clarification on this issue, but it also begs the question as to what the incentive is for harvesting on unsuitable lands, especially since the volume doesn't count towards the ASQ.

ADGC 44

According to the TPIT clarification for harvesting on slopes greater than 72 percent, *"The Forest Plan direction was written to allow for the harvest of only small areas of higher gradient (>72%) slopes. It is not anticipated that harvest on these lands will normally occur. Harvest on these areas should be the exception, rather than the rule."* Harvest, should it occur, is 'unscheduled' and does not count towards the Allowable Sale Quantity. The amount of harvest on these lands will be estimated annually in the Tongass

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Monitoring Report" (emphasis added). Obviously, the proposed harvesting of up to 181 acres of such slopes does not constitute an exception, especially the harvesting that is proposed within Units 75, 76, 203, 205, and 214.

Consequently, those areas with slopes greater than 72% that are large enough to exclude from the units, should be dropped from harvest consideration. This is especially true for the extensive amounts of such slopes that are proposed for harvesting within Units 75, 76, 203, 205, and 214, as it is apparent that these units could be reconfigured to avoid most of these steep slopes.

ADGC 44

Although we believe that TLMP Standard and Guideline S&W112.I.A.5 was intended to include only small inclusions of slopes greater than 72%, if harvesting continues to be proposed on these slopes, then according to the TPIT clarification on this issue, *"To document the analysis for allowing the harvest the following Checklist should be used:*

Steepness:

Dissection:

Parent Material:

Drainage:

Potential impacts on downstream beneficial uses:

If the analysis is undertaken prior to the signing of the ROD, then the approval (if approved) should be located in the ROD and FEIS. If the information is not available prior to the signing of the NEPA document, then it should be located in the Change Analysis (documentation of changes made between the ROD and on-the-ground activities)."

IV.) HARVESTING ON MMI4 SOILS

According to the unit card maps for Units 164, 165, 166, and 167, the entire portions of these units occur on MMI4 soils. This may simply be a mapping artifact; however, if it is not, then it is inconsistent with the Forest Plan, as the Plan prohibits harvesting on such soils, and has designated them as unsuitable lands (TLMP, AppendixA).

ADGC 45

V.) UNITS WITH STREAMS LACKING PROCESS GROUP BUFFERS

As depicted on the unit cards, the following units contain Class II or Class III streams that are either not shown as being buffered on the unit card maps, or are not prescribed for process group buffers in the Fish/Watershed narratives:

Unit 43: A buffer is not depicted on the unit card map for the Class II HC2 channel in the central portion of the unit.

ADGC 46

Unit 125: No buffer is shown for the Class II HC1 channel in the southwest portion of the unit.

Unit 126: A buffer is not depicted on the Class II PA2 channel located in the southeast portion of the unit.

Unit 153: The Class III HC5 channel located in the eastern portion of the unit is prescribed for split-line yarding or partial suspension, with no process group buffer prescribed. However, no site-level analysis has been completed to justify eliminating this buffer.

ADGC 46

Unit 227: No streamcourse protection measures or process group buffer are prescribed for the Class III HC6 channel located in the eastern portion of the unit. This stream is identified as a Class II HC1 channel immediately at the southern unit boundary, and transitions to an FP3 channel downstream.

VI.) APPENDIX E - ROAD CONDITION SURVEY DATA

While we appreciate the inclusion of a tabular summary of the Road Condition Survey that was completed in the Project Area, the acronyms that are presented in the tables are not defined and, as such, they are somewhat meaningless. We assume that "FP" and "WQ" refer to fish passage and water quality, but are at a loss as to what the other acronyms mean (e.g., "DP," "DD," "WP," "FF," "OT," "CF"). These need to be defined in the FEIS.

ADGC 47

VII.) UNIT CARDS WITH INCORRECT PRIMARY WATERSHED CODES

The unit cards for Units 166 through 241 have the wrong Primary Watershed Code (E77A) listed. This resulted in a substantial degree of confusion when trying to relate the information presented in the watershed reports to the individual units as they are described and depicted on the unit cards. These codes need to be corrected for the FEIS.

ADGC 48

VIII.) LOG TRANSFER FACILITIES

The discussion in the DEIS concerning the proposed log transfer facilities (LTFs) for this project provides no indication of the amount of existing bark accumulations on the benthic substrate at each LTF site, nor does it indicate the volume of timber that has been and will be transferred at each site. Rather, Tables Marine-4 and Marine-5 simply provide an estimate of the expected impacts associated with only this project (Table Marine-5 considers "Long-term Harvest" as the years 2000 to 2004 -- i.e., the life of this timber sale). However, all three of the proposed LTFs are existing facilities that were constructed in the 1960s, 1980s, and 1990s, and have had underwater dive surveys performed at some point during their operational histories. Despite the existence of these dive survey reports, no discussion concerning the cumulative impacts of the existing and anticipated future bark deposits at each site is included in the DEIS. Although Table Marine-5 arbitrarily predicts a ~~uniform~~ impact of 1.38 acres at each site, there is no indication as to how this figure was arrived at.

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In particular, according to the 1997 dive survey report for the Shoal Cove LTF (DEC files), a substantial amount of bark currently exists on the benthic substrate and appears to extend well beyond the minus 60-foot depth limit of the surveyed area. According to the report, *"Surface area covered by bark debris in the survey, using transects 245 and 005 as boundaries, computes to 0.52 acres which is the same as the area covered by the survey."* Within this 0.52 acre, the area of 100% continuous bark coverage was calculated to be 0.47 acres. While this appears to be a relatively small area of impact, given the underwater topography of the site and the minus 60-foot depth limitation of the survey, only half an acre was surveyed. According to the transect data and the dive survey map, continuous bark coverage appears to extend well beyond the minus 60-foot contour. As a result, the actual areal extent of continuous bark coverage has not been documented and remains unknown. In addition, according to the report, within the area that was surveyed, the bark deposits are up to 81 centimeters (32 inches) thick, which has *"caused a shift from a benthic filter feeding community to that of detrital feeding organisms."* This existing impact was not disclosed in the DEIS, nor was any discussion presented regarding how the additional bark accumulations from this project might potentially increase the magnitude and extent of the impact. If and when the EPA General Permit for Log Transfer Facilities in Alaska is finalized, DEC will require an additional dive survey at this site to document the actual extent of bark coverage, including the area beyond the minus 60-foot depth contour. If the accumulations are found to be significant (greater than one acre continuous coverage), then the department may exercise its regulatory authority and require remediation. This may also apply to the Elf Point LTF as, according to the 1995 dive survey report for that site, the area of both 100% continuous bark coverage and a thickness exceeding 10 centimeters was estimated to be one acre, though the actual extent may be greater as the area beyond the minus 60-foot contour was not surveyed in detail.

ADGC 49

PRELIMINARY ACMP COMMENTS**1.) Road Maintenance/Closure**

The road cards for this DEIS indicate that a considerable number of roads will have an Alaska Forest Resources and Practices Regulations (AFRPR) status of "closed" following completion of this timber sale. However, the description in the DEIS (page 3-242) of what this closure will entail is not consistent with the road closure standards of 11 AAC 95.320, which require the removal of all drainage structures and their associated fills. Specifically, according to the description in the DEIS, *"For roads to be closed, bridges will be removed and used in other locations. The roads behind the bridges will not be maintained for vehicular traffic; however, drainage structures will be monitored for functional condition. Maintenance Level 1 will be applied to these roads, which will include waterbars to safeguard minor drainage structures. This measure will minimize erosion in the event of structure failure."* Consequently, these roads would more appropriately be considered inactive in terms of AFRPR standards (11 AAC 95.315(c)). However, 11 AAC 95.315(c) requires that inactive roads be maintained so as to: 1.) keep

ADGC 50

ditches and drainage structures maintained as necessary to assure water flow and fish passage; 2.) keep the road surface crowned, outsloped, water barred, or otherwise left in a condition not conducive to erosion; and 3.) keep ditches and drainage structures clear and in good repair.

Although the DEIS does not indicate the miles of roads that will be closed, according to the milepost figures on the road cards, approximately 49 miles of roads are scheduled to be closed through the use of barriers, which we assume to mean tank traps or boulders, as these are the least expensive methods of blocking roads. Of this total, only 16 miles are proposed for obliteration, with an additional 3.95 miles proposed to have culverts removed on "protected streams" and water barred their entire lengths. This leaves approximately 29 miles of closed roads that will be blocked to vehicular traffic by barriers, with all drainage structures left in place. In addition to these barriered "closed" roads, according to the road cards, another 16.5 miles of roads are designated to be inactive, but have barriers indicated as the closure device. Consequently, it is unclear as to how these roads will be effectively monitored if they are blocked to vehicles. Does the Forest Service expect to periodically walk all 45.5 miles?

ADGC 50

This is of particular concern given the results of the Road Condition Survey that was conducted on approximately two-thirds of the existing roads in the Project Area. According to the results of the survey (DEIS Table Roads-5, page 3-244), 33 percent of the culverts on fish-bearing streams were found to be barriers to fish passage, and 16 percent of the culverts on non fish-bearing (water quality) streams were identified as having failed, requiring heavy equipment for repair or replacement. In addition, although Appendix E did not include any information pertaining to road prism condition, according to the Painted Creek watershed report (page D-38), *"Erosion is occurring at two points along the road (8440100) in this sub basin. Road drainage is not functioning correctly near the western edge of this sub basin causing the road surface to deteriorate. Mass wasting of road 8440100 is occurring approximately 200 feet from the end of road 8440100."* Similar problems may exist on other roads in the Project Area, and highlight the importance of putting closed roads to bed. This is particularly true given the isolated nature of the Project Area and the associated high cost of mobilizing equipment to perform routine maintenance and conduct repairs, especially when sufficient funds may not exist. According to the DEIS (page 3-31) *"With site specific information available on existing roads, critical stream crossings and roads that are potential sediment sources can be effectively managed (funding dependent)"* (emphasis added).

Consequently, unless assurance is provided that these "closed" roads will be effectively maintained consistent with the standards of 11 AAC 95.315(c), and that sufficient staff and funding will be available to complete the work, the 45.5 miles of barriered roads should be effectively closed according to the standards of 11 AAC 95.320. Specifically, these include outsloping or water barring the road surfaces, leaving ditches in a condition suitable to reduce erosion, and removing all drainage structures, including bridges, culverts, and their associated fills.

2.) Road Alignments - Questionable Field Review

ADGC 51

Letter #14: Alaska Division of Governmental Coordination, page twenty-one

As indicated above, according to the Painted Creek watershed report, substantial erosion and mass wasting problems were identified on the 8440100 Road. However, the Fish Habitat narrative on the road card for this road states *"Road Condition Survey (See Appendix E) completed in 1997 verifies the 8440100 existing road does not have any critical maintenance concerns present at this time."*

In addition, no mention of these problems is made in the Soils/Watershed narrative on the road card. Consequently, either the watershed report is incorrect, or the definition used for *"critical maintenance concerns"* does not include non-functional drainage structures and deterioration and mass wasting of the road prism. However, given this conflicting information and the somewhat non-specific nature of many of the road card narratives, it is apparent that, other than the road condition survey that was completed on some of the roads in the Project Area, most of the information provided in the road cards is aerial photo- or GIS-based, and not field verified. This is especially apparent on the cards for those roads or portions of roads that are planned for new construction, as the Fish Habitat narratives for nearly all these roads contain statements such as *"Field reconnaissance will be required for this road to identify any water quality streams that may need CMP's" ... "No fisheries concerns identified during the planning phase. Additional reconnaissance required after final road location is completed" ... "Additional reconnaissance is required for a portion of the 8430200 road that will require new construction" ... "No stream crossings have been identified during the planning phase. Timing restrictions may be required on some Class III streams after final road location is reviewed by District Biologist."* Consequently, until these proposed road alignments are reviewed in the field, and all stream crossings are identified, they can only be considered conceptual and not ready for an ACMP consistency determination. In addition, without identifying all of the streams that will be crossed by these alignments, the road cards are inconsistent with the surface water information requirement of 11 AAC 95.220(a)(5)(B).

ADGC 51

During our February 25, 1998 meeting with the Forest Service to review the draft of the Sea Level DEIS, we were told that, for Ketchikan Area timber sales, site-specific stream crossing information usually is not available by the DEIS stage of the planning process. However, it is difficult to understand why the Ketchikan Area is unable to review all proposed road alignments in the field and provide site-specific stream crossing information in their DEISs, when the Stikine Area routinely provides this information in the road cards for all of their DEISs (see the cards for the Crane and Rowan Mountain DEIS as an example). In fact, we have been told by several different Stikine Area planning and resource specialist staff that all proposed road alignments are field reviewed by a hydrologist and a fisheries biologist prior to the DEIS, and that the detailed site-specific stream crossing information on the road cards for their timber sales is accurate. Therefore, we encourage the Ketchikan Area to follow the Stikine Area's example in order to avoid this recurring problem of lacking site-specific information at this stage of the planning process.

ADGC 52

G Appendix

Forest Service Response to ADGC 1:

Previously responded to; see the Forest Service Response to ADF&G 1.

Forest Service Response to ADGC 2:

Previously responded to; see the Forest Service Response to ADFG 2.

Forest Service Response to ADGC 3:

Previously responded to; see the Forest Service Response to ADFG 3.

Forest Service Response to ADGC 4:

Previously responded to; see the Forest Service Response to ADFG 17.

Forest Service Response to ADGC 5:

Previously responded to; see the Forest Service Response to ADFG 18.

Forest Service Response to ADGC 6:

Previously responded to; see the Forest Service Response to ADFG 19.

Forest Service Response to ADGC 7:

Previously responded to; see the Forest Service Response to ADFG 20.

Forest Service Response to ADGC 8:

Previously responded to; see the Forest Service Response to ADFG 4.

Forest Service Response to ADGC 9:

Previously responded to; see the Forest Service Response to ADFG 5.

Forest Service Response to ADGC 10:

Previously responded to; see the Forest Service Response to ADFG 6.

Forest Service Response to ADGC 11:

Previously responded to; see the Forest Service Response to ADFG 7.

Forest Service Response to ADGC 12:

Previously responded to; see the Forest Service Response to ADFG 8.

Forest Service Response to ADGC 13:

Previously responded to; see the Forest Service Response to ADFG 9.

Forest Service Response to ADGC 14:

Previously responded to; see the Forest Service Response to ADFG 10.

Forest Service Response to ADGC 15:

Previously responded to; see the Forest Service Response to ADFG 11.

Forest Service Response to ADGC 16:

Previously responded to; see the Forest Service Response to ADFG 11.

Forest Service Response to ADGC 17:

Previously responded to; see the Forest Service Response to ADFG 12.

Forest Service Response to ADGC 18:

Previously responded to; see the Forest Service Response to ADFG 13.

Forest Service Response to ADGC 19:

Previously responded to; see the Forest Service Response to ADFG 14.

Forest Service Response to ADGC 20:

Previously responded to; see the Forest Service Response to ADFG 15.

Forest Service Response to ADGC 21:

Previously responded to; see the Forest Service Response to ADFG 16.

Forest Service Response to ADGC 22:

Previously responded to; see the Forest Service Response to ADEC 1.

Forest Service Response to ADGC 23:

Previously responded to; see the Forest Service Response to ADCE 2.

Forest Service Response to ADGC 24:

Previously responded to; see the Forest Service Response to ADEC 3.

Forest Service Response to ADGC 25:

Previously responded to; see the Forest Service Response to ADEC 4.

Forest Service Response to ADGC 26:

Previously responded to; see the Forest Service Response to ADEC 5.

Forest Service Response to ADGC 27:

Previously responded to; see the Forest Service Response to ADEC 6.

Forest Service Response to ADGC 28:

Previously responded to; see the Forest Service Response to ADEC 7.

Forest Service Response to ADGC 29:

Previously responded to; see the Forest Service Response to ADEC 8.

Forest Service Response to ADGC 30:

Previously responded to; see the Forest Service Response to ADEC 9.

Forest Service Response to ADGC 31:

Previously responded to; see the Forest Service Response to ADEC 10.

Forest Service Response to ADGC 32:

Previously responded to; see the Forest Service Response to ADEC 11.

Forest Service Response to ADGC 33:

Previously responded to; see the Forest Service Response to ADEC 12.

Forest Service Response to ADGC 34:

Previously responded to; see the Forest Service Response to ADEC 13.

Forest Service Response to ADGC 35:

Previously responded to; see the Forest Service Response to ADEC 14.

G Appendix

Forest Service Response to ADGC 36:

Previously responded to; see the Forest Service Response to ADEC 15.

Forest Service Response to ADGC 37:

Previously responded to; see the Forest Service Response to ADEC 16.

Forest Service Response to ADGC 38:

Previously responded to; see the Forest Service Response to ADEC 17.

Forest Service Response to ADGC 39:

Previously responded to; see the Forest Service Response to ADEC 18.

Forest Service Response to ADGC 40:

Previously responded to; see the Forest Service Response to ADEC 19.

Forest Service Response to ADGC 41:

Previously responded to; see the Forest Service Response to ADEC 21.

Forest Service Response to ADGC 42:

Previously responded to; see the Forest Service Response to ADEC 22.

Forest Service Response to ADGC 43:

Previously responded to; see the Forest Service Response to ADEC 23.

Forest Service Response to ADGC 44:

Previously responded to; see the Forest Service Response to ADEC 24.

Forest Service Response to ADGC 45:

Previously responded to; see the Forest Service Response to ADEC 25.

Forest Service Response to ADGC 46:

Previously responded to; see the Forest Service Response to ADEC 26.

Forest Service Response to ADGC 47:

Previously responded to; see the Forest Service Response to ADEC 27.

Forest Service Response to ADGC 48:

Previously responded to; see the Forest Service Response to ADEC 28.

Forest Service Response to ADGC 49:

Previously responded to; see the Forest Service Response to ADEC 29.

Forest Service Response to ADGC 50:

Previously responded to; see the Forest Service Response to ADEC 31.

Forest Service Response to ADGC 51:

Previously responded to; see the Forest Service Response to ADEC 32.

Forest Service Response to ADGC 51:

Previously responded to; see the Forest Service Response to ADEC 32.

Forest Service Response to ADGC 52:

Previously responded to; see the Forest Service Response to ADEC 33.

Letter #15: Forest Guardians, page one

August 7, 1998

Bradley E. Powell
Forest Supervisor
Tongass NF-Ketchikan Area
Attn: Sea Level Draft EIS
Ketchikan, AK 99901

RE: Comments on Sea Level Timber Sale E.I.S.

Dear Mr. Powell,

Forest Guardians is a non-profit corporation with its principal office in Santa Fe, New Mexico. Our mission is to protect and restore the native biological diversity of forests throughout the U.S., including forests in the Ketchikan Ranger District. Forest Guardians has approximately 2,500 individual and business members throughout the U.S. Many of our members use and enjoy the ecological resources of the Sea Level project area on a regular basis for recreational, aesthetic, and scientific activities. In pursuit of these activities, Forest Guardians regularly observe and enjoy the wildlife, clean water, and unmanaged forests of the Sea Level project area.

We are concerned with the adverse economic effects of the national forest logging program, and the Forest Service's failure to quantify such effects at the project level or for the program as a whole. The logging program increases costs of water purification and filtration, decreases the value of private timberlands, unfairly competes against alternative fiber and building material businesses, increases wildfire risk, increases repair and maintenance costs for highways and public roads, and decreases the number of jobs in recreation, tourism, fisheries, and alternative forest products.

In addition, the ecosystem service values of standing or otherwise intact forest ecosystems, especially native forests, including their value in providing clean water, mitigating floods, supporting recreation, hunting, fishing, and wildlife viewing, enhancing long term forest productivity, supplying alternative forest products, mitigating global warming, controlling agricultural pests and providing amenity values are systematically undervalued or not valued at all. For example, the Forest Service typically assigns zero economic value to "no action" alternatives in timber sale E.A.s or E.I.S.s, or no value at all.

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	REC & LANDS
	TIMBER
	CRAIG RD
	KETCHIKAN RD
	MISTY FIORDS NM
	THORNE BAY RD
	OTHER

Forest
Guardians
#1

Forest
Guardians
#2

G Appendix

Letter #15: Forest Guardians, page two

The federal government has, in its possession, tools of economic analysis that enable project planners to estimate both adverse economic impacts as well as ecosystem values, and incorporate these estimates into E.A.s or E.I.S.s so that realistic comparisons between economic benefits of the various alternatives can be completed. Incorporation of such costs and benefits is essential to fulfill the Forest Service's primary duty in management of Forest Service lands, namely, to maximize net public benefits.

Forest
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#3

To adequately quantify costs associated with the Sea Level Timber Sale, as well as the economic values of unlogged forests in the Sea Level project area, the Forest Service must adopt analysis techniques, such as the Natural Resources Damage Assessment techniques the federal government already applies in the context of oil spill litigation. We specifically request that the adverse external economic costs of logging in the Sea Level project area, as well as ecosystem service values of standing forests be estimated in the final E.I.S. for the Sea Level Timber Sale using the latest quantitative techniques available.

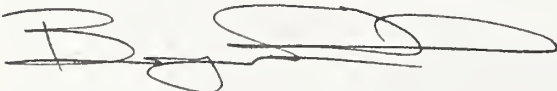
Forest
Guardians
#4

Finally, the opportunity costs of the logging program, which include the value of uses forgone on areas logged plus the benefits associated with alternative uses of timber sale funds have not been evaluated on a project basis or for the logging program as a whole. In the final E.I.S. for the Sea Level Timber Sale, the Forest Service must analyze alternative uses of the funds to be spent on this timber sale, to determine whether or not net public benefits can be maximized in other ways. We specifically request consideration of an alternative that would utilize available funds for this project to support the ecological restoration component of this sale by itself, without completing the commercial sale component. Such an alternative will improve ecological conditions, and leave the economic values of unlogged forests in the Sea Level project area intact. Such an alternative would most likely maximize net public benefits in the Sea Level Timber Sale.

Forest
Guardians
#5

Please keep Forest Guardians on the mailing list to receive copies of the final decision notice and E.I.S. for the Sea Level Timber Sale.

Sincerely,



Bryan Bird

Forest Service Response to FG 1:

The social and economic values included in this comment are best addressed at a much larger scale than at the project level. The TLMP has addressed these in great detail and incorporated those values into the LUD and standards and guidelines used to design and implement projects. Project analyses on pertinent social and economic factors have been incorporated into the Sea Level Project. This effort complements the TLMP.

Forest Service Response to FG 2:

These broad scale comments on the timber-sale program as a whole were addressed in the TLMP. See the Forest Service Response to FG 1.

Forest Service Response to FG 3:

Ecosystem values have been analyzed in the broad context of the TLMP as a whole and addressed through the use of LUDs and standards and guidelines. See the Forest Service Response to FG1.

Forest Service Response to FG 4:

The effects of all alternatives have been documented in the Final EIS. The documented costs and benefits of each alternative are those that are key to the decision to be made. See the Forest Service Response to SEACC 13, SEACC 16, and FG 1.

Forest Service Response to FG 5:

The Sea Level Project is only one of many projects under the auspices of the TLMP which are intended to work toward meeting the TLMP goals and objectives (TLMP page 2-4). The Timber Production LUD, over which much of the Sea Level Project would take place, has goals of promoting industrial wood production from suitable timber lands, providing a continuous supply of wood to meet society's needs, and to provide a supply of timber which meets the annual and plan-cycle market demand. Reallocation of funds intended to plan the Sea Level Project is beyond the scope of this analysis. Analysis of the effects of the No-Action Alternative serves as a baseline against which to compare the other alternatives in the Final EIS.



END APPENDIX G

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